



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 86

EPA-HQ-OAR-2017-0755; FRL_10007-54-OAR

RIN 2060-AT75

Light-duty Vehicle Greenhouse Gas Program Technical Amendments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is finalizing two technical corrections to the light-duty vehicle greenhouse gas (GHG) emissions standards regulations which were first promulgated in the 2012 rulemaking that established standards for model years 2017-2025 light-duty vehicles. First, EPA is correcting regulations pertaining to how auto manufacturers calculate credits for the GHG program's optional advanced technology incentives. This final rule corrects an error to ensure that auto manufacturers receive the appropriate amount of credits for electric vehicles, plug-in hybrid electric vehicles, fuel cell electric vehicles, and natural gas fueled vehicles. Second, this rule corrects an error in the regulations regarding how manufacturers must calculate certain types of off-cycle credits. Both of these corrections allow the program to be implemented as originally intended. The corrections are not expected to result in any additional regulatory burdens or costs.

DATES: This final rule is effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: The EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2017-0755. All documents in the docket are listed on the <http://www.regulations.gov>

web site. Although listed in the index, some information is not publicly available, e.g., 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. Publicly available docket materials are available electronically through <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Christopher Lieske, Office of Transportation and Air Quality (OTAQ), Assessment and Standards Division (ASD), Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor MI 48105; telephone number: (734) 214-4584; email address: lieske.christopher@epa.gov fax number: 734-214-4816.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does This Action Apply to Me?

This action affects companies that manufacture or sell new light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles, as defined under EPA's Clean Air Act (CAA) regulations.¹ Regulated categories and entities include:

¹ "Light-duty vehicle," "light-duty truck," and "medium-duty passenger vehicle" are defined in 40 CFR 86.1803-01. Generally, the term "light-duty vehicle" means a passenger car, the term "light-duty truck" means a pick-up truck, sport-utility vehicle, or minivan of up to 8,500 lbs gross vehicle weight rating, and "medium-duty passenger vehicle" means a sport-utility vehicle or passenger van from 8,500 to 10,000 lbs gross vehicle weight rating. Medium-duty passenger vehicles do not include pick-up trucks.

Category	NAICS Codes ^A	Examples of Potentially Regulated Entities
Industry	336111 336112	Motor Vehicle Manufacturers
Industry	811111 811112 811198 423110	Commercial Importers of Vehicles and Vehicle Components
Industry	335312 811198	Alternative Fuel Vehicle Converters

^ANorth American Industry Classification System (NAICS)

B. What action is the agency taking?

EPA is finalizing two technical corrections to the light-duty vehicle greenhouse gas (GHG) emissions standards regulations first promulgated in the 2012 rulemaking that established standards for model years 2017-2025 light-duty vehicles. First, EPA is correcting an error in the regulations pertaining to how auto manufacturers must calculate credits for the GHG program's optional advanced technology incentives. The regulations previously in place resulted in some auto manufacturers receiving fewer credits than the agency intended for electric vehicles, plug-in hybrid electric vehicles, fuel cell electric vehicles, and natural gas fueled vehicles. Auto manufacturers requested through a petition letter submitted jointly by the Auto Alliance and Global Automakers in June 2016 that EPA correct the regulations to provide the intended level of credits for these technologies. Second, the regulations regarding how manufacturers must

calculate certain types of off-cycle credits contained an error and were inconsistent with the 2012 final rule preamble, which raised implementation concerns for some manufacturers. The amendments finalized in this action correct and clarify the calculation methodologies in the regulations. Both of these corrections allow the program to be implemented as originally intended. EPA issued a proposal to correct the errors on October 1, 2018.² The corrections are described in detail in Section II below and EPA response to comments is provided in additional detail in Section III.

Effective Date

This final rule is effective immediately on publication. This rule constitutes the revision of a regulation under section 202 of the Clean Air Act (CAA) and as such it is covered by the rulemaking procedures in section 307(d) of the CAA. See CAA section 307(d)(1)(I). Section 307(d)(1) of the CAA states that: “The provisions of section 553 through 557...of Title 5 shall not, except as expressly provided in this section, apply to actions to which this subsection applies.” Thus, section 553(d) of the APA does not apply to this rule. The EPA is nevertheless acting consistently with the policies underlying APA section 553(d) in making this rule effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Section 553(d)(1) of the Administrative Procedure Act, 5 U.S.C. 553(d)(1), provides that final rules shall not become effective until 30 days after publication in the Federal Register “except . . . a substantive rule which grants or recognizes an exemption or relieves a restriction.” The purpose of this provision is to “give affected parties a reasonable time to adjust their behavior before the final rule takes effect.” *Omnipoint Corp. v. Fed. Comm’n Comm’n*, 78

² 83 FR 49344, October 1, 2018.

F.3d 620, 630 (D.C. Cir. 1996); see also *United States v. Gavrilovic*, 551 F.2d 1099, 1104 (8th Cir. 1977) (quoting legislative history). However, when the agency grants or recognizes an exemption or relieves a restriction, affected parties do not need a reasonable time to adjust because the effect is not adverse. EPA has determined that this rule relieves a restriction because it corrects a calculation error that does not allow manufacturers to claim the appropriate number of credits. Finalization of this rule would provide manufacturers the flexibility EPA intended when the credits program was originally promulgated.

In addition, section 553(d)(3) of the Administrative Procedure Act (“APA”), 5 U.S.C. 553(d), provides that final rules shall not become effective until 30 days after publication in the Federal Register “except . . . as otherwise provided by the agency for good cause.” In determining whether good cause exists to waive the 30-day delay, an agency should “balance the necessity for immediate implementation against principles of fundamental fairness which require that all affected persons be afforded a reasonable amount of time to prepare for the effective date of its ruling.” *Gavrilovic*, 551 F.2d at 1105. EPA has determined that there is good cause for making this final rule effective immediately because Model Year 2019 credit information is due on May 1, 2020, and manufacturers may need to purchase or use the additional credits generated by the corrected methodology to demonstrate their performance with the 2019 standards. As described above, the effect of this rule is not adverse and manufacturers likely do not need additional time to prepare for the effective date of this action's revisions, so a delayed effective date is not necessary for reasonable notice. In addition, the corrections to the calculations align with the preamble language in the 2012 rulemaking, so affected parties have had sufficient notice that the corrected methodology is how the program was meant to function. On balance, the potential short-term need for the additional credits generated by the corrected

methodology outweighs any unanticipated need for further notice.

Accordingly, EPA is making this rule effective immediately upon publication.

C. What is the agency’s authority for taking this action?

EPA is finalizing technical amendments to provisions of the light-duty vehicle GHG regulations under section 202 (a) of the Clean Air Act (CAA) ((42 U.S.C. 7521 (a)).

D. What are the incremental costs and benefits of this action?

EPA does not expect the corrections finalized in this action to result in any significant changes in regulatory burdens, costs, or benefits.

II. Technical Corrections

This rule corrects two technical provisions in the regulations for the model year (MY) 2017-2026 greenhouse gas (GHG) emissions standards. The first correction addresses how manufacturers apply advanced technology vehicle multipliers during credit calculations to ensure that credits are calculated as EPA intended in the 2012 final rule. The second correction addresses how manufacturers must calculate off-cycle credits under the program’s 5-cycle credit calculation methodology.

EPA views these items as technical amendments that correct and clarify the regulations and are not changes in how the program functions. Therefore, neither of these technical amendments introduce or remove any requirements on automobile manufacturers, nor do these changes impose additional regulatory costs. We describe each of these changes in the following sections.

This final rule corrects the application of advanced technology vehicle multipliers, and an off-cycle credit calculation methodology for MY 2012 and later vehicles. We note that in the “Safer

Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks” Part 2 Final Rule issued by EPA and the National Highway Traffic Safety Administration (NHTSA) regarding GHG and Corporate Average Fuel Economy (CAFE) standards for Model Years (MY) 2021 to 2026, EPA extended multipliers for dedicated and dual-fuel natural gas vehicles (NGVs) for model years 2022-2026. As discussed below, EPA has modified the regulations to ensure that credits attributable to this new multiplier are calculated correctly, consistent with the proposal, as well as for the multipliers established for various alternative fueled vehicles previously for MYs 2017-2021.

A. Correction of the Advanced Technology Multiplier Regulations

1. Multiplier credit calculation methodology

As part of the 2012 rule, EPA adopted temporary incentive multipliers for certain advanced technology vehicles, including battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), fuel cell vehicles (FCVs), and compressed natural gas (CNG) vehicles.³ The multipliers allow manufacturers to count these lower CO₂ emitting vehicles as more than one vehicle in their fleet average compliance calculations. For example, the 2.0 multiplier for MY 2017 BEVs would allow a manufacturer to count every MY 2017 BEV produced as two vehicles produced. As part of the finalized SAFE Part 2 rule, EPA extended the availability of multipliers for dedicated and dual-fuel NGVs to MY 2022-2026. The multipliers are shown for reference in Tables 1 and 2 below.

Table 1: The production multipliers, by model year, for electric vehicles and fuel cell

³ 77 FR 62812-62816 (October 15, 2012) and 40 CFR 86.1866-12(b).

vehicles⁴

Model year	Production multiplier
2017	2.0
2018	2.0
2019	2.0
2020	1.75
2021	1.5

Table 2: The production multipliers, by model year, for plug-in hybrid electric vehicles, dedicated natural gas vehicles, and dual-fuel natural gas vehicles⁵

Model year	Production multiplier
2017	1.6
2018	1.6
2019	1.6
2020	1.45
2021	1.3
2022-2026 (dedicated and dual-fuel natural gas vehicles only)	2.0

⁴ 40 CFR 86.1866-12(b)(1).

⁵ 40 CFR 86.1866-12(b)(2).

In 2016, EPA and NHTSA received a joint petition from the Alliance of Automobile Manufacturers and the Association of Global Automakers regarding various aspects of the CAFE and GHG programs.⁶ Item 8 of the petition, titled “Correct the Multiplier for BEVs, PHEVs, FCVs, and CNGs,” correctly notes that “the equation through which the number of earned credits is calculated is inaccurately stated in the regulations” and that credits would be inadvertently lost due to the error. As proposed, EPA is modifying the regulations so that the credits are calculated correctly in all cases such that no manufacturers would inadvertently lose credits. These advanced vehicle technology multipliers do not apply to the NHTSA CAFE program.

The uncorrected regulations regarding the application of the multipliers stated that “[T]he actual production of qualifying vehicles may be multiplied by the applicable value according to the model year, and the result, rounded to the nearest whole number, may be used to represent the production of qualifying vehicles when calculating average carbon-related exhaust emissions under §600.512 of this chapter.”⁷ The calculations are done separately for the passenger car and light truck fleets. The following shows the application of this regulatory text in equation form:⁸

$$CO2\ Credits = (S - E_{adj}) \times VLM \times P \div 1,000,000 [Megagrams]$$

⁶ “Petition for Direct Final Rule with Regard to Various Aspects of the Corporate Average Fuel Economy Program and the Greenhouse Gas Program,” Alliance of Automobile Manufacturers and the Association of Global Automakers, June 20, 2016.

⁷ See 40 CFR 86.1866-12(b)(3) (2018).

⁸ The descriptions of the terms in the above equations have been simplified somewhat for illustrative purposes compared to the regulations being finalized in this rule. See the language at 40 CFR 86.1866-12(b) for the detailed regulatory provisions.

$$S = \frac{\Sigma \text{Target} \times \text{Volume}}{\Sigma \text{Volume}} [g/mile]; E_{adj} = \frac{\Sigma \text{CREE} \times \text{Volume}_{adj}}{\Sigma \text{Volume}_{adj}} [g/mile]$$

Where:

S = Production weighted fleet average standard

E_{adj} = Production weighted fleet average carbon related exhaust emissions (CREE)⁹ with the multiplier(s) applied to the advanced technology production in the CREE average value calculation

VLM = Vehicle lifetime miles (195,264 for cars and 225,865 for light trucks)

P = Annual total vehicle production (for either cars or light trucks)

Target = Model type footprint target

Volume = Model type vehicle production

Volume_{adj} = Model type vehicle production with multiplier(s) applied to advanced technology vehicle production

Under the uncorrected regulations at 40 CFR 86.1865-12(k)(4), the multiplier for advanced technology production is applied by modifying the way the CREE (E_{adj} in the equation above) is calculated. The petitioners noted that applying the multiplier only to E_{adj} does not produce the intended credit. The petitioners provided an example of the incorrect calculation for a manufacturer producing 5,000 battery electric vehicles (BEVs), which have a CREE of zero,

⁹ Vehicle and fleet average compliance is based on a combination of CO₂, hydrocarbon (HC), and carbon monoxide (CO) emissions. This is consistent with the carbon balance methodology used to determine fuel consumption for the labeling and CAFE programs. The GHG regulations account for these total carbon emissions appropriately and refer to the sum of these emissions as the “carbon related exhaust emissions” (CREE).

showing that such a manufacturer would not receive any additional credits from the multiplier because the E_{adj} term would remain zero (regardless of the multiplier or how many vehicles were produced) and the fleet average standard term (i.e., the footprint-based standard) remains unchanged because the multiplier does not affect the fleet average standard calculation.

Example 1a below shows the calculation of credits without the multiplier and Example 1b shows the calculation with the uncorrected application of the multiplier using the 5,000 BEV example, assuming a footprint-based standard of 210 g/mile and a multiplier of 2.0.

Example 1a: Calculation of Credits Without the Multiplier

$$CO2\ Credits = (210 - 0) \times 195,264 \times 5,000 \div 1,000,000 = 205,027\ Megagrams$$

Example 1b: Uncorrected Application of the Multiplier:

$$CO2\ Credits = (210 - 0) \times 195,264 \times 5,000 \div 1,000,000 = 205,027\ Megagrams$$

Where the production weighted fleet average carbon related exhaust emissions, or E_{adj} , with the multiplier applied is calculated as follows:

$$E_{adj} = \frac{0 \times 5,000 \times 2.0}{5,000 \times 2.0} = 0\ g/mile$$

In order for the calculation to produce the correct result, the multiplier must be applied not only to the advanced technology vehicle production in the CREE average value, E_{adj} , calculation

but also to the advanced technology vehicle production in the average standard calculation and the advanced technology vehicle production portions of the total production. The calculation of credits in megagrams with the multiplier correctly applied, and as EPA is finalizing today, is represented by the following equations:

$$CO2\ Credits_{adj} = (S_{adj} - E_{adj}) \times VLM \times P_{adj} \div 1,000,000 \text{ [Megagrams]}$$

$$S_{adj} = \frac{\sum Target \times Volume_{adj}}{\sum Volume_{adj}} \text{ [g/mile]}; E_{adj} = \frac{\sum CREE \times Volume_{adj}}{Volume_{adj}} \text{ [g/mile]}$$

Where:

S_{adj} = Production weighted fleet average standard with the multiplier(s) applied to the advanced technology vehicle production in the footprint target calculation

E_{adj} = Production weighted fleet average CREE with the multiplier(s) applied to the advanced technology production in the CREE value calculation

VLM = Vehicle lifetime miles (195,264 for cars and 225,865 for light trucks)

P_{adj} = Annual vehicle production with the multiplier(s) applied to the advanced technology vehicle production

Target = Model type footprint target

$Volume_{adj}$ = Model type vehicle production with multiplier(s) applied to advanced technology vehicle production

Using the corrected methodology, manufacturers would determine the additional credits associated with using the multiplier(s) by calculating fleet credits with and without the multiplier applied (the credits without the multiplier applied are shown below as term C). The credits calculated without the multiplier would be subtracted from the credits calculated with the multiplier with the difference reflecting the additional credits attributable to the multiplier.

$$\text{Credits due to multiplier} = (S_{adj} - E_{adj}) \times VLM \times P_{adj} \div 1,000,000 - C \text{ [Megagrams]}$$

Applying the above corrected equation to Example 1a produces the expected credits due to the multiplier. As shown using Example 1a from above, the correct application of the 2.0 multiplier doubles the resulting credit in this example, which is what EPA intended and manufacturers expected when the program was established in the 2012 rule.

Example 1a: Calculation of Credits Without the Multiplier

$$CO2 \text{ Credits}(C) = (210 - 0) \times 195,264 \times 5,000 \div 1,000,000 = 205,027 \text{ Megagrams}$$

Example 1c: Correct Application of the Multiplier:

$$\begin{aligned} CO2 \text{ Credits}_M &= (210 - 0) \times 195,264 \times (5,000 \times 2.0) \div 1,000,000 \\ &= 410,054 \text{ Megagrams} \end{aligned}$$

Where the production weighted fleet average standard and fleet average carbon related exhaust emissions, or E_{adj} , are calculated with the multiplier as follows:

$$S_{adj} = \frac{210 \times 5,000 \times 2.0}{5,000 \times 2.0} = 210 \text{ g/mile}$$

$$E_{adj} = \frac{0 \times 5,000 \times 2.0}{5,000 \times 2.0} = 0 \text{ g/mile}$$

And finally, the credits due to application of the multiplier are:

$$\text{Credits due to multiplier} = 410,054 - 205,027 = 205,027$$

Example 2 below provides an example calculation for a fleet that consists of both conventional and advanced technology vehicles. The example consists of a fleet mix of two conventional vehicle models, one plug-in hybrid electric (PHEV) model, and one battery electric vehicle (BEV) model, where the PHEV multiplier is 1.6 and the EV multiplier is 2.0.

Table 3: Example 2 Fleet Mix

Vehicle Model	Production	Footprint Target (CO ₂ g/mi)	CREE (CO ₂ g/mi)	Multiplier
Conventional 1	10,000	300	320	N/A
Conventional 2	8,000	210	210	N/A
PHEV	5,000	210	50	1.6
BEV	5,000	210	0	2.0
Total	28,000			

Example 2a: Calculation of credits for mixed fleet with no multiplier:

$$CO_2 \text{ Credits } (C) = (242 - 183) \times 195,264 \times 28,000 \div 1,000,000 = 322,576 \text{ Megagrams}$$

Where the production weighted fleet average standard (S) and fleet average CREE (E) terms are calculated as follows:

$$S = \frac{(300 \times 10,000) + (210 \times 8,000) + (210 \times 5,000) + (210 \times 5,000)}{28,000} = 242 \text{ g/mile}$$

$$E = \frac{(320 \times 10,000) + (210 \times 8,000) + (50 \times 5,000) + (0 \times 5,000)}{28,000} = 183 \text{ g/mile}$$

Example 2b: Uncorrected Application of the Multiplier:

$$CO2\ Credits = (242 - 147) \times 195,264 \times 28,000 \div 1,000,000 = 519,402\ Megagrams$$

Where the production weighted fleet average Standard (S) and adjusted CREE with the multiplier applied (E_{adj}) are calculated as follows:

$$S = \frac{(300 \times 10,000) + (210 \times 8,000) + (210 \times 5,000) + (210 \times 5,000)}{28,000} = 242\ g/mile$$

$$E_{adj} = \frac{(320 \times 10,000) + (210 \times 8,000) + (50 \times 5,000 \times 1.6) + (0 \times 5,000 \times 2.0)}{36,000} = 147\ g/mile$$

Example 2c: Calculation of credits for mixed fleet using corrected multiplier methodology:

$$\begin{aligned} CO2\ Credits\ with\ multiplier &= (235 - 147) \times 195,264 \times 36,000 \div 1,000,000 \\ &= 618,596\ Megagrams \end{aligned}$$

Where the production weighted fleet average S_{adj} and E_{adj} terms and the P_{adj} terms, are calculated using the multiplier as follows:

$$S_{adj} = \frac{(300 \times 10,000) + (210 \times 8,000) + (210 \times 5,000 \times 1.6) + (210 \times 10,000 \times 2.0)}{36,000} = 235 \text{ g/mile}$$

$$E_{adj} = \frac{(320 \times 10,000) + (210 \times 8,000) + (50 \times 5,000 \times 1.6) + (0 \times 5,000 \times 2.0)}{36,000} = 147 \text{ g/mile}$$

$$P_{adj} = 10,000 + 8,000 + (5,000 \times 1.6) + (5,000 \times 2.0) = 36,000$$

Under the corrected methodology, manufacturers would use the above approach to calculate Megagrams of credits with and without the multipliers applied and report the difference to EPA as the credits attributed to the use of the advanced technology multipliers. In the above Example 2, the credits attributable to the multipliers are $618,596 - 322,576 = 296,020$. The previously established incorrect methodology, which applied the multiplier only to the CREE term, would provide fewer credits ($519,402 - 322,576 = 196,826$ Mg) for this example.

The descriptions of the terms in the above equations have been simplified somewhat for illustrative purposes compared to the regulations. See the language at 40 CFR 86.1866-12(b) finalized in this action for the detailed regulatory provisions. Previously, § 86.1866-12(b)(3) simply modified the CREE term in the equation in § 86.1865-12(k)(4) to incorporate the multiplier. Now, since the multiplier should have been applied as discussed above, the revised regulations add additional steps to the calculation process. First, manufacturers will use the new equation to calculate the total number of credits generated with multipliers included. Then,

manufacturers will subtract from that calculation the credits calculated without the multipliers applied, using the equation that already exists in § 86.1865-12(k)(4). The result provides the credit attributable to the multipliers to be reported to EPA as part of the credits portion of the year end compliance report.

EPA received comments from the Alliance of Automobile Manufacturers (the Alliance) and Fiat Chrysler Automobiles (FCA) that while they agree with the corrections, for some manufacturers the uncorrected methodology provides more credits than the corrected methodology. The commenters requested that EPA allow automakers to optionally retain usage of the uncorrected formula because the possibility that the corrected methodology could in certain cases lessen the credits due to multipliers is counter to the premise of the proposal and would cause harm to automakers who have made compliance plans in reliance on the uncorrected formula.

EPA believes these comments have merit. After reviewing actual MY2017 fleet data, it is clear that for several manufacturers, the correction would in fact reduce credits associated with the multiplier, which would be contrary to EPA's stated intent in the proposal. EPA also agrees that retroactively reducing credits associated with the multiplier for some manufacturers would be problematic and inconsistent with the 2012 rule's stated desire to incentivize production of advanced technology vehicles. MYs 2017-2019 are completed, and MY 2020 is well underway and MY2021 has begun for some manufacturers. Manufacturers may be counting on credit levels based on the uncorrected methodology for their product planning out to MY 2021, the last year the multiplier credits are available (aside from the additional NGV multipliers discussed below). Accordingly, EPA is allowing the continued use of the original, uncorrected methodology through MY 2021 to ensure that this rulemaking maintains the incentive

anticipated by the 2012 rule and also the incentive anticipated by manufacturers in their product planning. EPA will grant manufacturers the higher of the two credit values. These and other comments regarding the advanced technology multiplier calculations are discussed in more detail in section III.A., below.

For the extension of NGV multiplier for MYs 2022-2026 contained in the SAFE Part 2 final rule, the regulations finalized today require the use of the corrected methodology. These multipliers will function precisely the same as the multipliers for MYs 2017-2021, and require use of the corrected formula for the same reasons. Moreover, the potential product planning issues noted above for MYs 2017-2021 do not exist for these recently adopted multipliers since manufacturers would not yet have had the opportunity to incorporate them into product plans and because manufacturers knew of EPA's proposal to fix the multiplier calculations and could anticipate this correction.

The advanced technology multiplier incentive was available starting with the 2017 model year. Manufacturers are required to report all credit information by May 1 of the year following the end of the model year, which, for model year 2017, was May 1, 2018. EPA recognizes that the timing of this rulemaking precluded the ability to finalize the multiplier-based credits by the deadline, and, given this, the submissions made by manufacturers by May 1, 2018 were evaluated using the then-existing incorrect multiplier. For the 2017 model year reporting, EPA asked that manufacturers enter all their test data as they normally would (which needed to be done for CAFE calculations anyway), and that reports be submitted on time, with fleet credits calculated from the values as determined by EPA's then-existing regulatory calculation. Manufacturers followed this same reporting convention for MY 2018 as well. In March 2019, EPA released its 2018 EPA Automotive Trends Report where EPA estimated MY 2017

multiplier credits for manufacturers using the corrected methodology being finalized today.¹⁰

The recently released 2019 EPA Trends Report provides an estimate of credits using the corrected methodology for MY 2018.¹¹

The regulations adopted in this rule provide that manufacturers will calculate credits using both methodologies and report the higher of the two resulting credit values for model years 2017-2021. For ease of implementation, for MYs 2017-2021, EPA intends to also incorporate the new corrected calculation methodology in the compliance system and retain the uncorrected methodology such that manufacturers will be granted automatically the higher of the two calculated credit levels, as discussed above. Manufacturers will enter their test data into the compliance system as usual and the compliance system will calculate the credit values using the two methodologies and EPA will provide manufacturers with the higher of the two credit levels. EPA expects that there would be no reason for a manufacturer to select the methodology that provides fewer credits and this approach for implementation will simplify the compliance system for both EPA and the manufacturers. For model years 2017 through 2019, where manufacturers have already submitted fleet data, EPA would already have the data within its compliance system necessary to calculate credits associated with the multiplier. As discussed in Section III.A. below, while individual manufacturers may have relied on these credits for compliance, EPA estimates that allowing manufacturers to use either methodology would add less than 0.5 g/mile overall to the fleetwide credit level associated with the multiplier for MY 2017 compared to a fleetwide average standard of 258 g/mile and we expect that difference to decline over time. For

¹⁰ The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975, EPA-420-R-19-002, March 2019.

¹¹ The 2019 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975, EPA-420-R-20-006, March 2020.

MYs 2022-2026, EPA intends to incorporate the new corrected calculation methodology in its compliance reporting system as the only calculation methodology.

2. Rounding in the multiplier credit calculations

EPA also received comments from the Association of Global Automakers (Global Automakers) concerning how rounding is done in the calculations. They pointed out that how EPA specifies rounding of values in the regulation can make a nontrivial difference in the resulting Megagrams of credits. They suggested either of two approaches: (1) No rounding of any interim results, including of the inputs to the term labeled “C” above, or (2) an alternate approach that they specified as follows:

$$Credits[Mg] = \sum \{(Target - CREE) \times (Multiplier - 1) \times Volume\} \times VLM \div 1,000,000$$

EPA finds that this alternate calculation approach in theory results in values that are correct and are consistent with the goals of the program; however, in practice it cannot be implemented using the data that is currently reported to EPA by manufacturers. This is because the approach requires target values (which are derived from vehicle footprint values) to be aligned with CREE values (which are tied to model types), as shown in the equation above. Footprint data is collected by EPA for the purpose of calculating the unique fleet-wide GHG standards for each manufacturer, and CREE values are collected for the purpose of calculating the fleet average GHG emissions for each manufacturer. These sets of data, with their two distinct purposes, are not currently linked at the vehicle level in a way that allows footprint target values to be compared to model type CREE values. For example, the 2017 Honda Civic sedan had three footprints (thus three CO₂ targets) reflecting 16-, 17-, and 18-inch wheels, and production of these three was spread across five unique model types. Because each set of data (footprint and

model type) is used for different and specific purposes, each set contains what is needed for that purpose and little more. Thus, the footprint data is not reported by model type, and the model type data is not reported by footprint, and EPA has no direct way to determine, for example, how many 2.0-liter manual transmission Civic sedans were produced with each wheel size. Some manufacturers may be able to do this, but others may segregate the data similar to EPA's approach. EPA is thus not adopting the Global Automakers' suggested approach in favor of one that does not require changing or complicating the data collection process for manufacturers.

EPA agrees that rounding can make a difference. The example shown by Global Automakers demonstrated a case where rounding caused the "loss" of credits relative to not using any rounding, but the nature of rounding is that it can – and will – go both ways. There is an equal number of scenarios where rounding will give a manufacturer more credits than the unrounded case.

The commenter did not suggest and EPA is not changing the existing rules for rounding a manufacturer's fleet CO₂ standard or fleet average GHG value in the base program. These values, and the fleet credits (in Megagrams) calculated from these values will continue to be rounded to the whole number, as has been the case since the first year of EPA's GHG program. Using the Example 2 fleet from above (this example fleet was used in the NPRM and also used by the Global Automakers' in its comments), the fleet standard is 242 g/mi, the fleet average is 183 g/mi, and from these values the fleet generates 322,576 Megagrams of credits. This was the case prior to the 2017 model year when multipliers were not used, and EPA intends to maintain this calculation in the 2017 and later model years to determine the credits earned by the "base" fleet, before multipliers are considered. The example fleet is repeated below in Table 4 for

reference followed by the base fleet calculation of credits with no multiplier for the example fleet (also shown above in Example 2a).

Table 4: Example of Rounding in the Multiplier Calculations

Vehicle Model	Production	Footprint Target (CO2 g/mi)	CREE (CO2 g/mi)	Multiplier
Conventional 1	10,000	300	320	1
Conventional 2	8,000	210	210	1
PHEV	5,000	210	50	1.6
BEV	5,000	210	0	2.0
Total	28,000			

Calculation of base fleet credits before multipliers are considered, including rounding the fleet average and fleet standard to the nearest whole number:

$$CO2\ Credits\ (C) = (242 - 183) \times 195,264 \times 28,000 \div 1,000,000 = 322,576\ Megagrams$$

In response to the comments from Global Automakers, EPA is specifying that calculation of the multiplier-based credits is to be done without rounding, except that the resulting Megagrams of multiplier-based credits for a fleet will be rounded to the whole number (as is the case for all other types of credits). EPA believes this approach provides additional accuracy in the multiplier

credit calculations, addressing the concerns raised by the commenter, in a way that is implementable within the structure of the existing GHG program.

Fundamentally, there are three steps to determining multiplier-based credits (separate from calculating base fleet credits, as shown above), including the rounding convention for the multiplier calculation being adopted in this rule, as follows:

1. Calculate fleet credits from the fleet with no multipliers applied, using unrounded intermediate values. Then round the resulting Megagrams to the whole number. In the example, the result will be 322,186 Megagrams.

$$\begin{aligned} CO_2 \text{ Credits } (C) &= (242.142857142857 - 183.214285714286) \times 195,264 \times 28,000 \div 1,000,000 \\ &= 322,186 \text{ Megagrams} \end{aligned}$$

2. Calculate fleet credits with the multipliers applied using unrounded intermediate values. In other words, apply the multiplier to the calculation of a standard and a fleet average value, and in the equation for Megagrams of credits, use these values (unrounded) as well as a production volume value that includes the unrounded impact of the multiplier. Then round the resulting Megagrams to the whole number. Note that the example above does not illustrate the possible prevalence of the multiplier impact because of the even numbers that were selected for the example. The production volume becomes 36,000, the calculated standard becomes 235 g/mi, and the fleet average – the only fractional value resulting from the multiplier – becomes 146.667 (shown to three digits). The result of this calculation is 620,940 Megagrams of credits.

$$\begin{aligned} \text{CO}_2 \text{ Credits (C)} &= (183.913043478261 - 114.782608695652) \times 195,264 \times 36,000 \div 1,000,000 \\ &= 620,940 \text{ Megagrams} \end{aligned}$$

3. Subtract the credits determined in #1 (322,186) from the credits determined in #2 (620,940), and the result is 298,754 Megagrams of credits due to the multiplier impact.

These credits, like other credits, get added to the manufacturers base fleet deficit or credits (in this case 322,576 Megagrams) to determine the manufacturer's model year credit position.

B. Correction of Error in the Off-Cycle Technology Credit Calculation Provision

EPA's GHG emissions standards allow manufacturers to generate credits toward compliance through the application of off-cycle technologies. In model years 2017 and later, fuel economy off-cycle credits equivalent to EPA CO₂ credits are also available in the CAFE program. Off-cycle technologies are those that result in real-world emissions reductions that are not fully captured on the 2-cycle emissions tests used for compliance with the GHG standards (i.e., the city and highway test cycles). EPA originally adopted the off-cycle credits program as part of the 2010 rulemaking establishing the MY 2012-2016 standards.¹² EPA later modified the off-cycle program in 2012 as part of the MY 2017-2025 standards rule.¹³ One of the methodologies for manufacturers to demonstrate off-cycle emissions reductions is by conducting 5-cycle

¹² 75 FR 25438-25440 (May 7, 2010) and 75 FR 25697-25698.

¹³ 77 FR 62726-62738, 77 FR 62832-62840, and 40 CFR 86.1869-12.

testing¹⁴ with and without the off-cycle technology applied (i.e., A/B testing).¹⁵ The original program established in 2010 did not allow off-cycle credits for technologies that showed significant benefits on the 2-cycle segment of the 5-cycle test. The regulations established by the MY 2012-2016 rule stated that the “CO₂-reducing impact of the technology must not be significantly measurable over the Federal Test Procedure and the Highway Fuel Economy Test.”¹⁶ As such, the regulations did not require manufacturers to subtract 2-cycle reductions from the 5-cycle benefits when deriving the off-cycle credit because the 2-cycle benefit would necessarily be negligible.

The program as revised by the MY 2017-2025 rule allows for the possibility that some qualifying technologies could have a small 2-cycle benefit but a larger off-cycle benefit. The 2012 rule stated “EPA is removing the “not significantly measurable over the 2-cycle test” criteria” allowing for credits for qualifying off-cycle technologies “providing small reductions on the 2-cycle tests but additional significant reductions off-cycle.”¹⁷ EPA stated “[t]he intent of the off-cycle provisions is to provide an incentive for CO₂ and fuel consumption reducing off-cycle technologies that would otherwise not be developed because they do not offer a significant 2-cycle benefit and that the program would “encourage innovative strategies for reducing CO₂ emissions beyond those measured by the 2-cycle test procedures.”¹⁸ It is plain from the proposed and final rules that the revised off-cycle credit program was intended to provide credits for the incremental benefit of the off-cycle technology that was not captured on the 2-cycle test. For

¹⁴ The 5-cycle methodology is currently used to determine fuel economy label values. EPA established the 5-cycle test methods to better represent real-world factors impacting fuel economy, including higher speeds and more aggressive driving, colder temperature operation, and the use of air conditioning.

¹⁵ 77 FR 62837.

¹⁶ 75 FR 25698.

¹⁷ 77 FR 62835.

¹⁸ 77 FR 62832.

example, EPA provided extensive discussion of how it developed the standards based on its evaluation of various technologies and their effectiveness as demonstrated on the 2-cycle test.¹⁹ EPA further stated that the off-cycle credits were intended to recognize GHG reductions in excess of the benefits already reflected in the standards.²⁰ For example, for the menu credits for waste heat recovery and active aerodynamics, two technologies that do have some emission reduction benefit over the 2-cycle tests, EPA derived the credits by estimating the 5-cycle benefit and then subtracting out the 2-cycle benefit.²¹

However, EPA inadvertently did not make the associated change in the regulations to require that the 2-cycle benefit be subtracted from the 5-cycle benefit for those off-cycle credits which are based on a manufacturer-specific 5-cycle technology demonstration. This could lead to double counting of the 2-cycle benefit of the technology, which is also included in the 2-cycle tailpipe emissions results of the vehicle used to determine compliance with the standards. EPA made clear in the 2012 final rule that such “windfall credits” would be inappropriate.²² Accordingly, manufacturers have not formally requested, and EPA has not granted, new 5-cycle-based credits since identifying this issue. When the regulations are corrected this credit pathway will resume for manufacturers. This issue has been raised by manufacturers seeking clarification from the agency. EPA is addressing this oversight and the potential double-counting issue by correcting the regulations as proposed such that the 2-cycle benefit is subtracted from the 5-cycle benefit of the off-cycle technology. EPA is adding to the regulations the equation below to

¹⁹ 76 FR 74942 (December 1, 2011) & 77 FR 62726

²⁰ 77 FR 62650 and 77 FR 62836.

²¹ Joint Technical Support Document: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, August 2012, EPA-420-R-12-901 pp. 5-65 and 5-82.

²² 77 FR 62836.

ensure that credits derived from the 5-cycle methodology are calculated properly. See the revised regulatory language in 40 CFR 86.1869-12(c) for the complete regulatory text. EPA received only supportive comments regarding the proposed correction. Comments regarding the off-cycle credit calculation are discussed in Section III.B., below.

Under the regulatory correction, manufacturers would calculate the off-cycle credit in grams per mile using the following formula, rounding the result to the nearest 0.1 grams/mile:

$$Credit = (A - B) - (C - D)$$

Where:

Credit = the off-cycle benefit of the technology or technologies being evaluated, subject to EPA approval

A = the 5-cycle adjusted combined city/highway carbon-related exhaust emission value for the vehicle without the off-cycle technology;

B = 5-cycle adjusted combined city/highway carbon-related exhaust emission value for the vehicle with the off-cycle technology;

C = 2-cycle unadjusted combined city/highway carbon-related exhaust emissions value for the vehicle without the off-cycle technology; and

D = 2-cycle unadjusted combined city/highway carbon-related exhaust emissions value for the vehicle with the off-cycle technology.

Through this new regulatory equation, the “C” and “D” terms make clear that the 2-cycle emissions value of the off-cycle technology is subtracted from the 5-cycle emissions value (“A” and “B” terms), which was the intent of the program.

III. Public Comments

EPA received comments on the proposed rule from several entities. In this section, we summarize these comments and present our responses to each.

A. Comments on EPA’s Proposed Corrections to the Advanced Technology Incentive Multiplier

1. Support for proposed revisions

The Alliance, Global Automakers, FCA, Tesla, and Edison Electric Institute provided comments fully supportive of the corrected calculation methodology proposed by EPA. Global Automakers commented with suggestions regarding how rounding is handled in the credit calculations, as discussed below in Section III.A.3.

2. Optional use of uncorrected multiplier calculation methodology

EPA received comments from the Alliance and FCA that while they agree with the corrections, for some manufacturers the uncorrected methodology provides more credits in some cases than the corrected methodology. The commenters requested that EPA allow automakers to optionally retain usage of the uncorrected formula because the corrected methodology could lessen the credits due to multipliers. They commented that providing fewer credits would be counter to the intent of the proposal and would cause harm to automakers who have made compliance plans in reliance on the uncorrected formula.

EPA believes these comments have merit and, as noted in Section II.A above, is allowing for the continued use of the uncorrected methodology in addition to the corrected methodology and EPA will grant manufacturers the higher of the two credit values. The regulations adopted in this rule provide that manufacturers will calculate credits using both methodologies and report the higher of the two resulting credit values for model years 2017-2021. As discussed above in Section II.A.1, while the regulations specify that manufacturers will calculate credits using both methodologies, for ease of implementation, EPA's compliance system will also calculate the credits using both methodologies. Model years 2017 and 2018 are completed and model year 2019, and for many manufacturers 2020, are underway. EPA agrees that retroactively reducing credits associated with the multiplier for some manufacturers would be problematic, as that was not the intent of the proposal or the 2012 rule. Manufacturers may be counting on credit levels based on the uncorrected methodology for their product planning out to MY 2021, the last year the multiplier credits are available. EPA recently released its 2018 EPA Automotive Trends Report where EPA estimated that the corrected methodology provides manufacturers with about 2 g/mile of advanced technology multiplier credits on a fleet average basis for model year 2017 compared to a fleet average standard of 258 g/mile.²³ EPA estimates that allowing manufacturers to use either methodology would add less than 0.5 g/mile to the fleetwide credits level associated with the multiplier for MY 2017. As production volumes of advanced technology vehicles increase and diversify across vehicle footprints from primarily small footprint vehicles to include larger footprint vehicles, EPA expects the difference in credits calculated with the two methodologies to diminish.

²³ The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975, EPA-420-R-19-002, March 2019.

3. Rounding in multiplier credit calculations

Global Automakers commented that depending on total volume, CO₂ level and EV/PHEV penetration rate, the end credit value can nontrivially vary due to rounding effects. Global Automakers recommended that the multiplier credits be calculated either without rounding or in a separate calculation, following a similar precedent for calculating A/C credits and off-cycle credits. Global Automakers provided a suggested equation they believed would best address the rounding issue based on applying the multiplier on a model-by-model basis.

In response to the comments from Global Automakers, EPA is specifying that calculation of the multiplier-based credits is to be done without rounding, except that the resulting Megagrams of multiplier-based credits for a fleet will be rounded to the whole number (as is the case for all other types of credits) as discussed in Section II.A. above.

4. Need for a technical correction

The Union of Concerned Scientists (UCS) commented that the uncorrected regulations reflect EPA's original intent and that the proposal is not a "correction" but rather a change in policy. UCS points to text from the MY 2012-2016 NPRM which states "[t]hese proposed advanced technology credits are in the form of a multiplier that would be applied to the number of vehicles sold, such that each eligible vehicle counts as more than one vehicle in the manufacturer's fleet average."

EPA does not agree with UCS that the proposal represented a change in policy and maintains that it is a technical correction. EPA notes that although EPA proposed multiplier incentives in the MY2012-2016 rule, EPA did not finalize those incentives. Nevertheless, the intent of the policy was clear in the MY2012-2016 final rule which stated "For example, combining a

multiplier of 2.0 with a zero grams/mile compliance value for an EV would allow that EV to be counted as two vehicles, each with a zero grams/mile compliance value, in the manufacturer's fleet average calculations. In effect, a multiplier of 2.0 would double the overall credit associated with an EV, PHEV, or FCV" for a manufacturer with these fleet characteristics. 75 FR 25435. This intended outcome is not consistent with the credits calculated with the incorrect calculation methodology but is consistent with the corrected methodology being finalized today.

EPA's intent is also clear in the 2012 rulemaking where in multiple places the preamble consistently states, "This multiplier approach means that each EV/PHEV/FCV/CNG vehicle would count as more than one vehicle in the manufacturer's compliance calculation." 77 FR 62650 and repeated at 62778, 62811, 62812. These statements are consistent with the clarifications adopted in this rulemaking. At no point did the rulemaking contemplate limiting or restricting multiplier credits for some manufacturers.

UCS also commented that EPA used the uncorrected calculation in the MY2017-2025 rule analysis estimating the impact of the multipliers and that this provides further evidence of EPA's intent in the MY2017-2025 rulemaking establishing the multipliers. UCS comments that they were not able to assess how EPA calculated the impacts of the multipliers but believes that the estimates are based on the uncorrected methodology, providing further evidence of EPA's intent. In response, the methodology used to estimate the impact of the multipliers is provided in the Regulatory Impact Analysis for the MY2012-2017 final rule.²⁴ The impacts analysis provided in the RIA for the MY2012-2017 final rule did not use either the corrected or uncorrected equations directly to estimate potential impacts. The estimate was based on a fleetwide scenario using

²⁴ Regulatory Impact Analysis: Final Rulemaking for 2017-2025 Light-duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, p. 4-132, EPA-420-R-12-016, August 2012.

several simplifying assumptions. However, EPA did base the projected impacts on an estimate that included applying the multiplier to a projection of the total number of EVs in the fleet which is consistent with the corrected methodology.

UCS commented that EPA significantly underestimated the impacts of the multipliers in the MY 2012-2017 Final Rule and that compliance with state ZEV regulations would result in significantly more EV sales than EPA originally projected. UCS further commented that the proposed change to the program would result in significant erosion of program benefits. In response, EPA clearly acknowledged in the MY 2017-2025 final rule that the multipliers would decrease the program benefits to the extent that manufacturers produced the advanced technology vehicles. The final rule states “The agency recognizes that the temporary regulatory incentives will reduce the short-term benefits of the program.”²⁵ EPA’s 2012 RIA estimate of the impact of the multipliers was meant to be illustrative, but its policy intent was clear and the correction included in this rulemaking is consistent with that policy intent. EPA does not believe that it would be appropriate to maintain an error in the regulations to effectively deny some manufacturers the level of credits that both EPA and the manufacturers believed would be available since the policy was adopted by EPA in the 2012 final rule. Any change in the program to change policy, for example to reduce credits associated the multipliers, would need to be considered through rulemaking where EPA would provide a full assessment of such a proposal and an opportunity for public comment.

5. Opposition to the multiplier provisions

²⁵ 77 FR 62812.

The American Fuel & Petrochemical Manufacturers (AFPM) commented opposing multipliers in their entirety, calling on EPA to not finalize proposed changes and to eliminate the multipliers. AFPM noted that it also opposed the use of multipliers in their comments on the 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards. AFPM commented that the multiplier credits are not based on sound science because EPA is arbitrarily ignoring the numerous GHG emissions from the production, transmission, and distribution of electricity and the production of EVs. AFPM also commented that the proposed correction would have costs associated with it because the additional credits associated with the correction have a market value and could be traded (sold) to other manufacturers. AFPM commented that the multipliers are subsidies not based on any emission reductions, nor did EPA consider the existing local, state, federal, and utility policies that already subsidize EVs. AFPM commented that EPA should conduct a Regulatory Impact Analysis for the rulemaking.

In response, EPA believes AFPM comments regarding eliminating multiplier credits are outside the scope of this rulemaking. EPA did not propose or request comments on eliminating multiplier credits or otherwise make any policy changes regarding the availability of multiplier credits. EPA only proposed a regulatory correction to allow credits to be calculated as intended by the 2012 final rule that established the multipliers. EPA therefore does not believe it must revisit the issues raised by AFPM. EPA fully considered all comments in the 2012 final rule establishing the multiplier credits which were established through a full notice and comment rulemaking. EPA did not propose in the technical amendments rule to reopen the basic question of whether or not multiplier credits should be part of the GHG program. EPA fully considered program costs in the 2012 rule that included the multiplier credits. AFPM argues that the

multiplier technical amendment has costs associated with the correction due to the market value of the credits attributable to the correction. However, EPA does not agree that there are costs associated with the technical amendments rule as EPA did not propose and is not adopting any significant change to its policy regarding those credits. Therefore, EPA has not conducted a new Regulatory Impact Analysis for this technical amendments rulemaking. EPA acknowledged in the 2012 final rule that the multiplier credits were incentives to promote the production of advanced technology vehicles, that the incentives were not based on real-world emissions reductions, and that the incentives would result in a loss of emissions reductions to the extent that vehicle manufacturers produced advanced technology vehicles, and EPA provided an estimate of the additional emissions that would occur from the use of the multipliers.

6. Process concerns about extension of comment period

Minnesota Pollution Control Agency and Minnesota Department of Transportation provided joint comments that they continue to have concerns about the U.S. Environmental Protection Agency's (EPA) process for reviewing, amending, and revising its vehicle GHG emissions standards and that the process does not live up to the standards set by the Administrative Procedure Act to provide the public with adequate time and information to participate meaningfully in the rulemaking process. Specifically, on the technical amendments proposal, the organizations commented “While we appreciate the additional time the EPA provided to review this proposal, it is inappropriate to provide a comment period extension after the close of the comment period. It wastes commenter resources trying to develop comments during the stated period. Reopening the comment period does little or no good because the commenters' resources have already been spent attempting to meet the original deadline.”

In response, EPA initially provided a 30-day comment period for the technical amendments rule. The comment period opened on October 1, 2018 and initially closed on October 31, 2018. In response to a request for a comment period extension received on October 18, 2018, EPA reopened the comment period to in effect extend the comment period by an additional 30 days.²⁶ EPA released the pre-publication version of the Federal Register document re-opening the comment period on October 30, 2018, the last day of the initial comment period, on its website and the document was published in the *Federal Register* on November 8, 2018. EPA strives to respond to requests for comment period extensions as quickly as possible, because we recognize that commenters often plan to file comments on the last day. In this case, while EPA acknowledges the Federal Register document re-opening the comment period was published after the initial comment period ended, the extension was announced on EPA's website less than two weeks after the request was received, and EPA's intention was to be responsive to a request for an extension of the comment period. While the timing of the Federal Register notice may have limited the usefulness of the additional time for public comment for this commenter, EPA does not agree that the original comment period, or the re-opening of the comment period, was inconsistent with the Administrative Procedure Act. EPA notes that Minnesota Pollution Control Agency and Minnesota Department of Transportation did not raise any substantive issues concerning the proposed technical corrections. The commenter raised concerns with how the technical corrections could affect the analyses in the SAFE vehicles NPRM, as discussed below.

7. Relationship of this rule to the SAFE vehicles rule

Minnesota Pollution Control Agency and Minnesota Department of Transportation commented "It is also unclear how this proposed amendment to the existing GHG standards

²⁶ 83 FR 55837, November 8, 2018.

would affect the analysis conducted for the proposed Safer Affordable Fuel Efficient (SAFE) Vehicles rule (83 FR 42986). While the SAFE rule proposed to eliminate incentives and flexibilities in the GHG standards for 2020-2026, the updates proposed in these technical amendments could potentially affect the cost-benefit analyses conducted for the SAFE rule.”

UCS similarly commented that “While the two amendments proposed by the Agency may seem minor, they cannot simply be viewed in isolation—rather, they must be considered in context with other changes to the program, including the notice of proposed rulemaking (NPRM) to freeze standards at model year (MY) 2021 levels through MY2026.” UCS commented further that “The agencies are seeking comment on these flexibilities explicitly as part of the 2021-2026 NPRM, including the petition to which the technical amendments are responding (83 FR 42998). Any impacts of these proposed amendments will have affect not only [sic] the current rules, but also those under consideration, potentially leading to significant reductions in emissions which the Agency has not yet considered under either rulemaking.” UCS provides comments on the overall potential impacts of some of the expanded flexibilities and that the environmental impacts of the proposed amendments have not been considered by the Agency under either rulemaking.

In response, as described in the proposal, there are no significant costs or environmental impacts because the technical amendments rulemaking does not change the intended policy, it only makes a technical correction to the regulations to allow manufacturers to generate the appropriate level of credits. These corrections do not affect any analyses that would be conducted for the SAFE vehicles rule because they do not represent a policy change to the program, they only allow the program to operate as originally intended. EPA also notes that the original multiplier incentives (i.e., those established in the 2012 rule) are temporary and only

apply to model years 2017-2021, whereas the SAFE vehicles proposal affects model years 2021-2026. Therefore, any potential overlap is limited to model year 2021. For the MY 2022-2026 NGV multiplier, the SAFE rule did not project the use of NGVs to meet the 2022-2026 standards, so the new NGV multiplier had no impact on any analysis in the SAFE Rule. EPA does not believe that UCS' comments on possible program changes considered in the SAFE vehicles rule are relevant to this technical amendments rule. UCS noted that it also submitted its comments to the docket for the SAFE vehicles rule in addition to the docket for the technical amendments rule.

B. Comments on EPA's Proposed Correction to Off-cycle Technology Credits Provisions

The Alliance, Global Automakers, FCA, and UCS supported the correction to the 5-cycle calculation methodology as proposed. The Alliance, Global Automakers, and FCA commented that EPA needs to further address two areas in the technical correction. They commented that EPA should specify that it will award all technologies that have a difference between 5-cycle and 2-cycle testing methodology as long as the off-cycle credit value is equal to or greater than 0.05 g/mile, regardless of the observed benefit using the 2-cycle method and that EPA should clearly define the term "baseline technology (item and efficiency)." Commenters believe that clarifying this term will help manufacturers determine what a baseline technology is and the associated baseline off-cycle credit value.

UCS commented that EPA should "clarify a threshold for 'not in widespread use' to ensure that the newly streamlined off-cycle credit process does not result in unwarranted credits for baseline technologies while providing the certainty requested by industry to encourage

deployment of new and novel non-safety off-cycle technologies. Such clarification could also respond to automaker request for clarity on the definition of a ‘baseline’ technology.”

In response to the above comments, the NPRM did not propose or request comments on establishing new thresholds or baselines in the regulations to determine what technologies are eligible for off-cycle credits; and therefore, EPA believes the comments are outside the scope of the technical amendments rulemaking. Given the diversity of views on this topic, as expressed by the commenters noted above, and the potential complexity of the policy issues involved, EPA believes such regulatory changes would need to be done through a notice and comment rulemaking that includes a full discussion and technical assessment of the topic and opportunity for public comment. EPA will continue to use the current regulations as well as the detailed discussion in the 2012 final rule preamble to determine what technologies are eligible for off-cycle credits on a case-by-case basis.²⁷

IV. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket.

²⁷ See 40 CFR 86.1869-12 and preamble discussion at 77 FR 62835-62837 and 77 FR 62726-62736.

This final action merely clarifies and corrects existing regulatory language. EPA does not believe there will be costs associated with this rule. Also, EPA does not anticipate that this rule will create additional burdens to the existing requirements. As such, a regulatory impact evaluation or analysis is unnecessary.

B. Executive Order 13771: Reducing Regulations and Controlling Regulatory Costs

This action is not subject to Executive Order 13771 because it merely clarifies and corrects existing regulatory language and is not expected to result in costs or additional burdens.

C. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2060-0104. This action will not impose any new information collection burden under the PRA, since it merely clarifies and corrects existing regulatory language.

D. Regulatory Flexibility Act (RFA)

I certify that this action would not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to the rule. This rule merely clarifies and corrects existing regulatory language.

We therefore anticipate no costs and therefore no regulatory burden associated with this rule. Further, small entities are generally exempt from the light-duty vehicles greenhouse gas standards unless the small entity voluntarily opts into the program. See 40 CFR 86.1801-12(j). For MY 2017 to present, no small entities have opted into the program. We have therefore concluded that this action will have no net regulatory burden for all directly regulated small entities.

E. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local or tribal governments. Requirements for the private sector do not exceed \$100 million in any one year.

F. Executive Order 13132: Federalism

This action does not have federalism implications. It will 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 Executive Order 13175. This rule only corrects and clarifies regulatory provisions that apply to light-duty vehicle manufacturers. Tribal governments would be affected only to the extent they purchase and use regulated vehicles. Thus, Executive Order 13175 does not apply to this action.

H. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This rule merely corrects and clarifies previously established regulatory provisions.

I. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. This final action merely clarifies and corrects existing regulatory language.

J. National Technology Transfer and Advancement Act (NTTAA)

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (“NTTAA”), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs agencies to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action modifies existing regulations to correct errors in the regulations and therefore involves technical standards previously established by EPA. The amendments to the regulations

do not involve the application of new technical standards. EPA is continuing to use the technical standards previously established in its rules regarding the light-duty vehicle GHG standards for MYs 2017-2025. See 77 FR 62960.

K. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this action is not subject to Executive Order 12898 (59 FR 7629, February 16, 1994) because it does not establish an environmental health or safety standard. This regulatory action makes technical corrections to a previously established regulatory action and as such does not have any impact on human health or the environment.

List of Subjects in 40 CFR Part 86

Administrative practice and procedure, Confidential business information, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements.

Andrew Wheeler,

Administrator.

Environmental Protection Agency

40 CFR Chapter I

For the reasons set forth in the preamble, the Environmental Protection Agency is amending part 86 of title 40, Chapter I of the Code of Federal Regulations as follows:

PART 86—CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY VEHICLES AND ENGINES

1. The authority citation for part 86 continues to read as follows:

Authority: 42 U.S.C. 7401-7671q.

2. Section 86.1865-12 is amended by redesignating paragraph (k)(5)(v) as paragraph (k)(5)(vi) and by adding a new paragraph (k)(5)(v) to read as follows:

§86.1865-12 How to comply with the fleet average CO₂ standards.

* * * * *

(k) * * *

(5) * * *

(v) Advanced technology vehicle credits earned according to the provisions of §86.1866-12(b)(3).

* * * * *

3. Section 86.1866-12 is amended by revising paragraphs (b) introductory text and adding paragraph (c) to read as follows:

§86.1866-12 CO₂ credits for advanced technology vehicles.

* * * * *

(b) For electric vehicles, plug-in hybrid electric vehicles, fuel cell vehicles, dedicated natural gas vehicles, and dual-fuel natural gas vehicles as those terms are defined in §86.1803-01, that are certified and produced for U.S. sale in the specified model years and that meet the additional specifications in this section, the manufacturer may use the production multipliers in this paragraph (b) when determining additional credits for advanced technology vehicles. Full size pickup trucks eligible for and using a production multiplier are not eligible for the performance-based credits described in §86.1870-12(b).

* * * * *

(c) Calculating multiplier-based credits for advanced technology vehicles: This paragraph (c) describes the method for calculating credits using the production multipliers in paragraph (b) of this section. Production multipliers must be used according to this paragraph (c) and must not be used in calculating fleet average carbon-related exhaust emissions under 40 CFR part 600 or §86.1865-12(i), or in any elements of the equation used for the calculation of CO₂ credits or debits in §86.1865-12(k)(4). Calculate credits for advanced technology vehicles for a given model year, and separately for passenger automobiles and light trucks, using the following equation, subtracting the credits calculated for the base fleet from the credits calculated for the fleet with multipliers applied. No credits are earned if the result is a negative value. All values expressed in megagrams shall be rounded to the nearest whole number.

$$Credits [Mg] = [Credits_{adj}] - [Credits_{base}]$$

(1) For model year 2017-2021 multipliers, determine adjusted fleet credits ($Credits_{adj}$) in megagrams using one of the following methods, where the resulting $Credits_{adj}$ is rounded to the nearest whole number. Use the method that returns the highest total megagrams. For 2022 and later model years, determine adjusted fleet credits ($Credits_{adj}$) in megagrams using only Method 1 in paragraph (c)(1)(i) of this section, where the resulting $Credits_{adj}$ is rounded to the nearest whole number. Note that the adjusted CO₂ standard (S_{adj}) and the adjusted fleet average carbon-related exhaust emissions (E_{adj}) are determined solely for the purpose of calculating advanced technology vehicle credits in this section; the official CO₂ standard applicable to the fleet will continue to be the value calculated and rounded according to §86.1818-12(c), and the official fleet average carbon-related exhaust emissions applicable to the fleet will continue to be the value calculated and rounded according to 40 CFR 600.510-12(j). In addition, note that the rounding requirements in this section differ from those specified for the official fleet standards calculated under §86.1818-12 and for the official fleet average carbon-related exhaust emissions calculated under 40 CFR 600.510-12.

(i) Method 1: All values that determine fleet credits are adjusted using the applicable multipliers.

$$Credits_{adj} [Mg] = \left[\frac{(S_{adj} - E_{adj}) \times P_{adj} \times VLM}{1,000,000} \right]$$

Where:

S_{adj} = adjusted CO₂ standard calculated according to the method described in §86.1818-12(c), except that the actual production of qualifying vehicles under this section shall be multiplied by the applicable production multiplier, and no rounding shall be applied to the result.

E_{adj} = adjusted production-weighted fleet average carbon-related exhaust emissions calculated according to the method described in 40 CFR 600.510-12(j), except that the actual production of qualifying vehicles under this section shall be multiplied by the applicable production multiplier, and no rounding shall be applied to the result.

P_{adj} = total adjusted production of passenger automobiles or light trucks, except that the actual production of qualifying vehicles under this section shall be multiplied by the applicable production multiplier, and no rounding shall be applied to the result.

VLM = vehicle lifetime miles, which for passenger automobiles shall be 195,264 and for light trucks shall be 225,865.

(ii) Method 2: Multipliers are applied only to calculation of the fleet average carbon-related exhaust emissions.

$$Credits_{adj} [Mg] = \left[\frac{(S_{base} - E_{adj}) \times P_{base} \times VLM}{1,000,000} \right]$$

S_{base} = CO₂ standard calculated according to the method described in §86.1818-12(c), except that no rounding shall be applied to the result.

E_{adj} = adjusted production-weighted fleet average carbon-related exhaust emissions calculated according to the method described in 40 CFR 600.510-12(j), except that the actual production of qualifying vehicles under this section shall be multiplied by the applicable production multiplier, and no rounding shall be applied to the result.

P_{base} = total production of passenger automobiles or light trucks.

VLM = vehicle lifetime miles, which for passenger automobiles shall be 195,264 and for light trucks shall be 225,865.

(2) Determine base fleet credits in megagrams using the following equation and rounding the result to the nearest whole number. Do not adjust any production volume values with a multiplier. Note that the CO₂ standard (S_{base}) and the fleet average carbon-related exhaust emissions (E_{base}) are determined solely for the purpose of calculating advanced technology vehicle credits in this section and do not replace the official fleet values; the official CO₂ standard applicable to the fleet will continue to be the value calculated and rounded according to §86.1818-12(c), and the official fleet average carbon-related exhaust emissions applicable to the fleet will continue to be the value calculated and rounded according to 40 CFR 600.510-12(j). In addition, note that the rounding requirements in this section differ from those specified for the official fleet standards calculated under §86.1818-12 and for the official fleet average carbon-related exhaust emissions calculated under 40 CFR 600.510-12.

$$Credits_{base} [Mg] = \left[\frac{(S_{base} - E_{base}) \times P_{base} \times VLM}{1,000,000} \right]$$

S_{base} = CO₂ standard calculated according to the method described in §86.1818-12(c), except that no rounding shall be applied to the result.

E_{base} = production-weighted fleet average carbon-related exhaust emissions calculated according to the method described in 40 CFR 600.510-12(j), except that no rounding shall be applied to the result.

P_{base} = total production of passenger automobiles or light trucks.

VLM = vehicle lifetime miles, which for passenger automobiles shall be 195,264 and for light trucks shall be 225,865.

4. Section 86.1869-12 is amended by revising paragraphs (c)(1) through (3) to read as follows:

§ 86.1869-12 CO₂ credits for off-cycle CO₂-reducing technologies.

* * * * *

(c) * * *

(1) Testing without the off-cycle technology installed and/or operating.

(i) Determine carbon-related exhaust emissions over the FTP, the HFET, the US06, the SC03, and the cold temperature FTP test procedures according to the test procedure provisions specified in 40 CFR part 600 subpart B and using the calculation procedures specified in 40 CFR 600.113-12. Run each of these tests a minimum of three times without the off-cycle technology installed and operating and average the per phase (bag) results for each test procedure.

(ii) Calculate the FTP and HFET carbon-related exhaust emissions from the FTP and HFET averaged per phase results.

(iii) Calculate the combined city/highway carbon-related exhaust emission value from the FTP and HFET values determined in paragraph (c)(1)(ii) of this section, where the FTP value is weighted 55% and the HFET value is weighted 45%. The resulting value is the 2-cycle unadjusted combined city/highway carbon-related exhaust emissions value for the vehicle without the off-cycle technology.

(iv) Calculate the 5-cycle weighted city/highway combined carbon-related exhaust emissions from the averaged per phase results, where the 5-cycle city value is weighted 55% and the 5-cycle highway value is weighted 45%. The resulting value is the 5-cycle adjusted

combined city/highway carbon-related exhaust emission value for the vehicle without the off-cycle technology.

(2) Testing with the off-cycle technology installed and/or operating.

(i) Determine carbon-related exhaust emissions over the FTP, the HFET, the US06, the SC03, and the cold temperature FTP test procedures according to the test procedure provisions specified in 40 CFR part 600 subpart B and using the calculation procedures specified in 40 CFR 600.113-12. Run each of these tests a minimum of three times with the off-cycle technology installed and operating and average the per phase (bag) results for each test procedure.

(ii) Calculate the FTP and HFET carbon-related exhaust emissions from the FTP and HFET averaged per phase results.

(iii) Calculate the combined city/highway carbon-related exhaust emission value from the FTP and HFET values determined in paragraph (c)(2)(ii) of this section, where the FTP value is weighted 55% and the HFET value is weighted 45%. The resulting value is the 2-cycle unadjusted combined city/highway carbon-related exhaust emissions value for the vehicle with the off-cycle technology.

(iv) Calculate the 5-cycle weighted city/highway combined carbon-related exhaust emissions from the averaged per phase results, where the 5-cycle city value is weighted 55% and the 5-cycle highway value is weighted 45%. The resulting value is the 5-cycle adjusted combined city/highway carbon-related exhaust emission value for the vehicle with the off-cycle technology.

(3) Calculate the off-cycle credit in grams per mile using the following formula, rounding the result to the nearest 0.1 grams/mile:

$$Credit = (A - B) - (C - D)$$

Where:

Credit = the off-cycle benefit of the technology or technologies being evaluated, subject to EPA approval;

A = the 5-cycle adjusted combined city/highway carbon-related exhaust emission value for the vehicle without the off-cycle technology, as calculated in paragraph (c)(1)(iv) of this section;

B = 5-cycle adjusted combined city/highway carbon-related exhaust emission value for the vehicle with the off-cycle technology, as calculated in paragraph (c)(2)(iv) of this section;

C = 2-cycle unadjusted combined city/highway carbon-related exhaust emissions value for the vehicle without the off-cycle technology, as calculated in paragraph (c)(1)(iii) of this section; and

D = 2-cycle unadjusted combined city/highway carbon-related exhaust emissions value for the vehicle with the off-cycle technology, as calculated in paragraph (c)(2)(iii) of this section.

* * * * *

[FR Doc. 2020-07098 Filed: 4/22/2020 8:45 am; Publication Date: 4/23/2020]