AUTO ALLIANCE
DRIVING INNOVATION®

GlobalAutomakers

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June 20, 2016

Gina McCarthy
Administrator
Environmental Protection Agency
Office of the Administrator 1101A
1200 Pennsylvania Avenue, N.W.
Washington DC 20460

Re: Petition for Direct Final Rule with Regard to Various Aspects of the Corporate Average Fuel Economy Program and the Greenhouse Gas Program

Dear Administrators Rosekind and McCarthy:

This is a petition for a Direct Final Rule pursuant to 49 CFR § 553.14 and 5 U.S.C. § 553(e) requesting that the National Highway Traffic Safety Administration (NHTSA) and the U. S. Environmental Protection Agency (EPA) exercise their authority[1] to address various inconsistencies between the Corporate Average Fuel Economy (CAFE) regulatory program and the light-duty vehicle greenhouse gas (GHG) emissions regulations and to address additional inefficiencies in the programs.

The Petitioners, the Alliance of Automobile Manufacturers and the Association of Global Automakers (jointly known as the trade associations), are trade associations representing manufacturers of automobiles, as defined by the Energy Policy and Conservation Act (EPCA), 49 U.S.C. § 32901, et. seq..[2] The Petitioners submit this petition on behalf of their member companies.

[1] 49 USC § 32901 et. seq.
[2] The Alliance of Automobile Manufacturers is an association of 12 vehicle manufacturers which account for roughly 77% of all car and light truck sales in the United States. These members are BMW Group, FCA US LLC, Ford Motor Company, General Motors, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars North America, Toyota, Volkswagen Group of America, and Volvo Car USA.

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The actions requested are appropriate as a Direct Final Rule because they are essentially technical amendments relating to inconsistencies, errors, or procedural issues with respect to the CAFE and GHG programs. They do not impact the stringency of the standards as originally intended, nor are they contrary to the underlying analyses upon which the standards were based. The Petitioners seek expeditious action on the requested changes in order to address pending issues affecting many of our members, and to provide certainty in compliance planning.

On May 21, 2010, President Obama issued an Executive Order directing NHTSA and EPA to develop a "coordinated national program" of "joint Federal standards" to improve automobile fuel efficiency and reduce GHG emissions from light-duty vehicles. The National Program was premised on harmonization between the two programs. Many trade association member companies entered into Commitment Agreements with NHTSA and EPA through which they committed to abide by a harmonized set of CAFE and GHG standards for Model Years 2012-2025.[3]

The specific regulatory changes that the trade associations request are set forth in detail in this petition, along with supporting material demonstrating that the proposed changes are aligned with widely accepted policy goals, are technically sound, and are consistent with the relevant statutes. Some of the requested changes relate to aspects of the CAFE rules that result in a greater level of stringency than the GHG program. The CAFE standards are required to be set at a level that is technologically and economically feasible without the need to pay CAFE fines. To the extent that discrepancies and correctable inefficiencies in the program could force manufacturers to pay CAFE fines despite being able to meet the GHG standards, the CAFE standards are beyond what should be considered "maximum feasible." This petition does not address the feasibility of the augural CAFE standards for MYs 2022-2025, and making the changes requested here would not have a material impact on the feasibility of those standards. Rather, these changes are necessary to bring the overall CAFE program into better alignment with the "maximum feasible" level of fuel economy for MYs 2010-2021.

The National Program is Premised on Harmonization

From the beginning, the National Program was intended to result in a joint rule to set standards for both the GHG and CAFE programs that would allow automakers to comply with both programs through a single unified fleet. As noted by the agencies when announcing the MY 2017-2025 standards: "the goal . . . is to establish harmonized federal standards such that automobile manufacturers will be able to build a single light-duty national fleet that satisfies all

[3] The Commitments from the Petitioners and from EPA and NHTSA were set forth in letters dated May, 2009 (with regard to the MY 2012-2016 standards), May, 2010 (with regard to continuing the process), and July, 2011 (with regard to the MY 2017-2025 standards).

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federal and state requirements, while enabling consumers to still have a full range of vehicle choices."[4]

The National Program has been operational since MY 2012, and both manufacturers and the agencies have now had the benefit of experiencing how the elements of the programs and the market have impacted the ability of manufacturers to comply with both programs through a single fleet and technology array.[5] With the perspective of hindsight, it is clear that certain discrepancies between the two programs have prevented the level of harmonization sought and anticipated. Some manufacturers are projecting that, despite being able to comply with the numerically more stringent GHG standards, they are likely to be in a position to pay CAFE fines. This was not the intent of the National Program.

Petitioners' member companies anticipate that some of these impediments, which are apparent already for purposes of the MY 2012-2016 standards, will continue to be impediments for MYs 2017-2025.

The Petitioners acknowledges that EPCA contains certain constraints preventing full harmonization between the two programs. This petition does not request that the agencies attempt to harmonize the CAFE and GHG programs in a manner that contravenes statutory directives. Certain aspects of the programs will require legislative change to ensure consistency, and include the following:

> EPCA limits the maximum increase in any compliance category attributable to transferred credits. *See* 49 U.S.C. § 32903(g)(3). The GHG program includes no such limitation, and therefore offers a more significant incentive to deploy advance technologies early in order to cover unexpected market fluctuations, product planning assumptions that prove inaccurate, product changeover plans, or to provide credits to the market.
>
> EPCA limits the number of years an earned credit may be applied to a manufacturer's compliance calculation. EPCA allows credits to be used for five model years forward and for three model years back. EPA has harmonized with this constraint, but further allowed a one-time carry forward to allow credits earned in MYs 2010-2016 to be used through

[4] During the initial implementation of the National Program, the agencies noted in the 2010 rule that "NHTSA and EPA's standards would require *slightly different* fuel efficiency improvements." 75 Fed. Reg. 25324, 25342 (May 7, 2010) (emphasis added). The agencies did not expect significantly different fuel efficiency improvements in order to meet the CAFE standards in addition to the GHG standards.

[5] As described in more detail below, some aspects of the program have been applied to MYs prior to 2012. Where appropriate, the agencies should adopt the changes in the CAFE program beginning with the same model year that they became operative in the GHG program.

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MY 2021. Due to the statutory limitation, that same consideration cannot be accorded within the CAFE program.[6]

The agencies, however, have the ability to address a number of other inconsistencies without jeopardizing the fuel consumption benefits associated with the standards. In particular, and for the reasons set forth below, petitioners request that the agencies harmonize the programs as follows:

The Petitioners request that EPA and NHTSA calculate the fuel economy for a manufacturer's fleets for MYs 2010-2016 taking into account off-cycle technologies at the same levels and in the same way as EPA accounts for those technologies in the GHG program. Doing so would not erode the overall benefits of the CAFE standards or the National Program. The Petitioners recognize that EPA, in conjunction with NHTSA, has taken into account such off-cycle technologies in calculating compliance with the MYs 2017-2025 standards. Similar treatment would be just as appropriate with regard to the earlier model years consistent with EPA's recognition of off-cycle technology beginning in 2010.

The Petitioners request that EPA and NHTSA calculate the fuel economy for a manufacturer's fleets for MYs 2010-2016 taking into account air conditioning efficiencies at the same levels and the same ways as EPA is accounting for those efficiencies in the GHG program. Below we provide an approach that would grant such credits while also accounting for the differences in the stringency of the GHG and CAFE standards that was based on originally not having included these credits in the CAFE standards.

The Petitioners request that NHTSA apply the adjustment factor, beginning in Model Year 2011, when credits are carried forward or carried back within a compliance category, as well as when they are traded and transferred. The adjustment factor in 49 C.F.R. Part 536 was established by NHTSA in response to the Congressional mandate to ensure, when creating a program for trading credits between manufacturers, that overall oil savings remains the same. EPA has a different approach to ensuring the consistency of the benefits in the GHG program. The change being requested in this petition would help to harmonize the two approaches since the adjustment factor equates the CAFE credit to a linear function similar to the way in which credits are applied in the GHG program.

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[6] EPA has made additional allowances to harmonize the GHG program with the CAFE program despite an absence of statutory constraints. For example, EPCA specifies certain values for dual-fueled vehicles, which values EPA has adopted through MY 2015. Additionally, for purposes of establishing CAFE standards, EPCA assumes that fuel economy will be measured only with regard to fuel consumption during vehicle travel. The CO_2 program also accounts for emissions reductions that are not associated with the fuel economy cycle testing. EPA and NHTSA have resolved this discrepancy by recognizing that EPA has the authority to determine how to calculate fuel economy, an authority which allows EPA to take such "off-cycle" improvements into account and provide appropriate incentive in both programs for the substantial benefits represented by such technologies.

The Petitioners request that NHTSA reconsider its decision not to harmonize with EPA by using the same, fixed Lifetime Vehicle Miles Traveled (VMT) values in the adjustment factor for MYs 2011-2016. NHTSA's VMTs for MYs 2011-2016 are generally lower than those derived from the 2009 National Household Travel Survey, even without the VMT growth rate assumed by the agencies, with the result that the adjustment factor is artificially low. As noted in the rulemaking analyses, while EPA's approach is similar to NHTSA's approach, it provides for better year-over-year consistency and accounts for the external factors that impact the VMT calculation. Since the fixed VMT value being employed incorporates an average which includes the earlier model years, applying it to those model years is analytically consistent.

Petitioners request NHTSA revise the definition of the term "transfer" in 40 CFR 536.3 to be consistent with language in the 2010 preamble of the proposed rulemaking for 2017-2025 GHG/CAFE standards. This revision would more closely align the NHTSA credit transfer program with that of the EPA GHG provisions as was the expressed intent in the 2010 preamble language.

In addition to the above, the Petitioners request that the agencies allow manufacturers to manage their credit supply and use. We note that, while the manufacturer model year reports[7] track certain credits separately, such as the off-cycle credits, and appear to allow manufacturers the ability to apply either those credits or over-compliance credits as they choose, in a recent publication EPA stated instead that technology credits must be applied before any over-compliance credits are applied.[8] The Petitioners request that, rather than imposing a priority system on the application of credits, the agencies allow manufacturers to choose how to apply their available credits.

The Petitioners also request that each agency take the following actions. While not giving rise to direct conflicts between the programs, the following issues involve potential difficulties that could lead to compliance disparities and/or that are inconsistent with the original intent of the programs.

The Petitioners request that NHTSA adjust the minimum domestic passenger car standard for MYs 2012-2016 to reflect 92% of the required average passenger car standard taking into account the fleet mix as it occurred, rather than what was forecast. Doing so better aligns the overall CAFE performance values with real world results and EPA's calculations, and is fully consistent with the statute.

The Petitioners request that EPA and NHTSA provide for a default acceptance of petitions for off-cycle credits, provided that all required information has been provided. Limited agency resources have delayed the processing of these petitions, and the delay

[7] See 40 CFR 600.512-12

[8] Environmental Protection Agency. "Greenhouse Gas Emissions Standards for Light-Duty Vehicles – Manufacturers Performance Report for the 2014 Model Year" (EPA-420-R-15-026). December 2015. (P. 17)

impedes manufacturers' ability to plan for compliance or make investment decisions. Streamlining the process will further promote a more efficient and better harmonized National Program.

The Petitioners request that EPA remedy the equation applied to calculate the multiplier credits available in the GHG program. As the agency is aware, the calculation that is currently in the regulatory text does not reflect the intent, with the result that manufacturers earn fewer multiplier credits than was originally intended. This important flexibility was intended to encourage the ongoing production of zero emission vehicles, and achieving the full flexibility is particularly important in an environment of lower gasoline prices. Although not directly related to harmonization, the Petitioners believe that it would be appropriate for EPA to additionally address this error when processing this petition.

The above items are appropriate for the agencies to handle through a Direct Final Rule. The requested modifications would change neither the stringency levels of the standards themselves nor the overall benefits achieved through the National Program. The modifications requested in this petition are therefore suited to a Direct Final Rule. While there may be other opportunities for EPA and NHTSA to enhance harmonization between their two programs, the items discussed in this Petition represent a meaningful step in the right direction.

Specific Requests

This section sets forth the specific requests for modifications to the regulations, along with the supporting rationale for each request.

1. Include Off-Cycle Credits in the CAFE Calculation for MYs 2010-2016

The agencies should take appropriate steps to calculate corporate average fuel economy for MYs 2010-2016 more consistently with how corporate average fuel economy is to be calculated for MYs 2017-2025 by including in the CAFE compliance calculation the same off-cycle credits applied in the GHG program for earlier model years. Significantly, EPA acknowledged off-cycle credits beginning with MY 2010.

In 2012, EPA and NHTSA finalized action to acknowledge off-cycle credits equally in the CAFE program through EPA's authority to calculate a manufacturer's fuel economy performance. NHTSA, however, resisted applying those credits to earlier model years as EPA had done.

NHTSA's decision not to do so was premised on an erroneous assumption that NHTSA had fully accounted for the benefits of those technologies in the later model years, while it had not done so for earlier model years. In fact, however, neither EPA nor NHTSA took those benefits into account (instead creating a pure incentive) and, therefore, the agencies can maintain

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consistency by providing the credits in both programs for all model years, starting with MY 2010.

Significantly, the GHG standards -- like the corresponding CAFE standards -- did not include any quantification of the impacts of the off-cycle credits approved for use during MYs 2012-2016. 75 Fed. Reg. at 25438 ("Because these technologies are not nearly so well developed and understood, EPA is not prepared to consider them in assessing the stringency of the CO_2 standards").[9] Similarly, the agencies did not consider the benefits of off-cycle technologies in setting the standards for MYs 2017-2025, other than the 2-cycle benefits of stop-start and active aerodynamics.[10]

NHTSA nevertheless declined to apply the same off-cycle credits to earlier model years as EPA had done, noting only that "NHTSA did not take such credits into account when adopting the CAFE standards for those model years. As such extending the credit program to the CAFE program for those model years would not be appropriate." 77 Fed. Reg. at 62840. That statement, however, appears inconsistent with the considerations of off-cycle credits as more specifically described within the rulemaking analyses. Indeed, in addition to the fact that neither EPA nor NHTSA accounted for those benefits – other than the 2-cycle benefits of stop-start and active aerodynamics in the MY 2017-2025 rule -- NHTSA's analysis of "maximum feasibility" in the 2010 preamble makes clear that the agency did in fact consider all relevant technologies, and did so in a way that the agency announced were "consistent standards among all components of the National Program." 75 Fed. Reg. at 25607. [11]

The Petitioners request that the agencies reconsider calculating fuel economy for the earlier model years, and applying the same off-cycle credits offered in the GHG program in the CAFE program as well.

Recommendation: Section 600.510-12 Calculation of average fuel economy and average carbon-related exhaust emissions. Subsection (c)(1):

Change From:

(i) Except as allowed in paragraph (d) of this section, the average fuel economy for the model years before 2017 will be calculated individually for each category identified

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[9] Consistent with the fact that neither EPA nor NHTSA included off-cycle credits in their stringency analyses, NHTSA did not adjust its standards to account for off-cycle credits when EPA adopted them. The result is that, while the stringency of the standards is nominally the same as it regards off-cycle technology (other than air conditioning), EPA provided a full incentive for the introduction of innovative and novel technologies during the MY 2012-2016 timeframe, while NHTSA did not.

[10] The agencies noted that "the ability to generate off-cycle credits and increases in fuel economy for use in compliance will not affect or change the stringency of the GHG or CAFE standards established by each agency."

[11] Although EPCA does not require that CAFE standards meet a cost/benefit analysis, the agency noted that it is permitted to conduct one. See, e.g., 75 Fed. Reg. at 25553 and Center for Biological Diversity v. NHTSA, 508 F.3d 508 (9th Cir. 2007) The substantial benefits of the CAFE standards, which overlap with the benefits of the overall National Program, illustrate that the CAFE program, as modified, would continue to provide substantial societal benefits far beyond the societal costs. There would be no erosion of the beneficial impact of the CAFE standards.

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in paragraph (a)(1) of this according to the provisions of paragraph (c)(2) of this section.

(ii) Except as permitted in paragraph (d) of this section, the average fuel economy for the 2017 and later model years will be calculated individually for each category identified in paragraph (a)(1) of this section using the following equation:

Average MPG = 1/[1/MPG-(FCIVac + FCIVoc + FCIVpu)]

Change to:

(i) Except as permitted in paragraph (d) of this section, the average fuel economy for the 2010 through 2016 model years will be calculated individually for each category identified in paragraph (a)(1) of this section using the following equation:

Average MPG = 1/[1/MPG-(FCIVoc)]

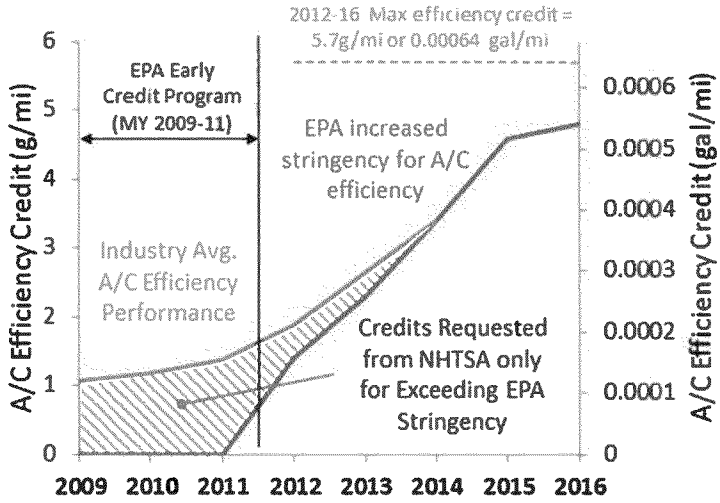
(ii) Except as permitted in paragraph (d) of this section, the average fuel economy for the 2017 and later model years will be calculated individually for each category identified in paragraph (a)(1) of this section using the following equation:

Average MPG = 1/[1/MPG-(FCIVac + FCIVoc + FCIVpu)]

2. *Include Air-Conditioning Efficiency Credits in the CAFE Calculation for MYs 2010-2016*

For similar reasons, the agencies should also permit the use of air conditioning efficiency credits in MYs 2010-2016 consistent with the agencies' approach to MYs 2017-2025. In the rule for the earlier years, the agencies accounted for the difference of including these credits in one program but not the other by adjusting the overall stringency of the standards for MYs 2012-2016. While the GHG standards amounted to an overall targeted level of 35.5 mpg, the CAFE standards amounted to an overall combined fleet target level of 34.1 mpg in 2016. The Petitioners propose an approach that provides full harmonization by allowing such credits for MYs 2010-2016 while also taking into account the difference in the levels of the standard.

The disparity between the standards creates a situation in which a manufacturer that includes more efficient air-conditioning systems than those assumed by EPA for the industry as a whole is penalized in the CAFE program by not receiving the same consideration provided in the GHG program. The below graph illustrates the substantial, and unnecessary distinction, between the two programs due to this disparity:



The blue line represents the amount of air-conditioner efficiency credits EPA projected for the fleet, including the stringency beyond the CAFE standards. The red line shows how the industry performed on average. The shaded area between the two shows the credits disregarded in the CAFE program, already accounting for the difference in the stringency of the standards.

In developing the program, EPA assumed a maximum benefit of 5.7 g/mi due to air conditioning efficiency credits. The chart below shows the projected penetration rate and the total CO_2 credit in the EPA program based on that penetration rate. The Petitioners suggest that the agencies apply a formula ($FCIV_{ACPROJ}$) to adjust that credit to account for the difference in stringency between the programs.

For example, if a manufacturer deployed MAC efficiency technology worth 3.1 g CO_2/mile across its MY 2013 fleet, the full credit for CAFE would have been a FCIV of 0.00035 (3.1/8887). However, since the stringency would also have been increased in MY 2013 by a FCIV of 0.00026, the net effect would be 0.00009 gallons/mile.

Model Year	2009-11	2012	2013	2014	2015	2016
Projected Penetration Rate	N/A	28%	40%	60%	80%	85%
CO_2 Credit (5.7 g/mi x Penetration Rate)	0	1.6	2.3	3.4	4.6	4.8
$FCIV_{AC\ PROJ}$ (gallons/mile, CO_2 credit/8887)	0	.00018	.00026	.00038	.00052	.00054

As with the off-cycle credits, the agencies can harmonize the programs while maintaining the same levels of overall stringency and remaining consistent with the analyses previously set

forth. With the benefit of hindsight, it has become clear that the program disparities are unnecessarily undermining the intent of the National Program.

Recommendation: Section 600.510-12 Calculation of average fuel economy and average carbon-related exhaust emissions. Subsection (c)(1):

Change From:

(i) Except as allowed in paragraph (d) of this section, the average fuel economy for the model years before 2017 will be calculated individually for each category identified in paragraph (a)(1) of this according to the provisions of paragraph (c)(2) of this section.

Change to:

(i) Except as permitted in paragraph (d) of this section, the average fuel economy for the 2010 through 2016 model years will be calculated individually for each category identified in paragraph (a)(1) of this section using the following equation:

Average MPG = 1/[1/MPG-(FCIVoc)-max(0,(FCIVac –FCIVac proj))]

Where FCIVac proj is from the table above. FCIVoc is for off-cycle credits discussed above.

3. *Apply the Fuel Savings Adjustment Factor Across Model Years*

The Petitioners request that NHTSA modify the fuel savings adjustment factor by making it applicable when credits are carried forward or carried back within the same fleet. When Congress authorized a credit trading program between manufacturers, it also mandated that NHTSA ensure that total oil savings be preserved. *See* 49 U.S.C. § 32903(f)(1). Congress did not include the same provision in the provision mandating a credit transfer program between the fleets, but NHTSA decided that such a provision was appropriate. *See* 49 U.S.C. § 32903(g); 74 Fed. Reg. 14,452 (March 30, 2009). As a result, the adjustment factor established in Part 536 applies to both.

It has long been recognized that fuel savings is not linear with fuel consumption. The amount of fuel consumed by exceeding a standard by 1 mpg will vary based on the level of the standard. Although carry forward/carry back credits were used for many years, for much of that time – during the years of the Congressional CAFE freeze – the standards did not change and therefore credits were associated with the same amount of fuel savings from year to year. When developing the credit trading and credit transfer programs, and establishing the adjustment factor, consideration was not given to also applying the adjustment factor between model years within the same compliance fleet. The theory, however, remains the same and the adjustment factor would ensure that total oil savings are achieved regardless of when and where the credits are used. We recognize there may be some accounting challenges associated with implementation of

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this concept. We look forward to working with you to consider and develop an appropriate process to consider and account for these situations.

Recommendation: Section 536.4 Credits. Subsection (c):

Change From:

(c) Adjustment factor. When traded or transferred and used, fuel economy credits are adjusted to ensure fuel oil savings is preserved. For traded credits, the user (or buyer) must multiply the calculated adjustment factor by the number of its shortfall credits it plans to offset in order to determine the number of equivalent credits to acquire from the earner (or seller). For transferred credits, the user of credits must multiply the calculated adjustment factor by the number of its shortfall credits it plans to offset in order to determine the number of equivalent credits to transfer from the compliance category holding the available credits. The adjustment factor is calculated according to the following formula:

Change to:

(c) Adjustment factor. When traded or transferred and used, fuel economy credits are adjusted to ensure fuel oil savings is preserved. ***This adjustment factor also applies to credits used within a manufacturer's same fleet, i.e. domestic car to domestic car.*** For traded credits,..."

4. Apply the Harmonized VMT Estimates from MYs 2017-2025 to MYs 2011-2016

The Petitioners request that NHTSA reconsider its position with regard to the estimate of Vehicle Miles Traveled (VMT) used in the adjustment factor. For MYs 2012-2016, the agency had estimated VMT separately by model year and, in 2012 added an additional estimate for MY 2011. For MYs 2017-2025, NHTSA proposed to align with EPA and used a fixed VMT value approach. In response to a comment from the Alliance, NHTSA decided against applying the same fixed values to the earlier model years, stating that "we do not believe that the benefits of harmonization in this particular aspect for these model years outweigh the potential fuel savings losses that may occur if a change is made at this time." 77 Fed. Reg. at 63130.

With the benefit of hindsight, it is clear that no fuel savings were, in fact, lost. Instead, because VMT for the earlier model years, as derived from the 2009 National Household Travel Survey, were generally higher than NHTSA's projections, the amount of fuel savings per credit was actually undervalued. NHTSA should, at the least, update the VMT estimates to the best VMT estimates to reflect better the real world fuel economy results.[12]

[12] Petitioners acknowledge that adjusting the VMT estimates would present further challenges to those companies which may have traditionally run at a CAFE deficit and for whom accommodations were made to assist in the transition from a CAFE program permitting the payment of civil fines in lieu of compliance to the GHG program where non-compliance is not an option. Petitioners suggest that if a company is entitled to participate in the

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Estimated VMT represents an analysis that takes into account various factors impacting the extent to which consumers use their vehicles. Considerations wholly external to motor vehicle manufacturers and motor vehicle regulators impact each year's VMT. To derive a reasonable estimate, EPA conducted its analyses and averaged the calculated, anticipated VMT for MYs 2012-2030. While micro- and macro-economic considerations may impact VMT year-by-year, the averaging approach provides a consistent and reasonable basis (as evidenced by the fact that both agencies have adopted it prospectively) to proceed.

In the Regulatory Impact Analysis for MYs 2017-2025, the agencies noted that NHTSA's approach to estimating VMT closely approximated EPA's approach for those model years. (*See* 2012 Regulatory Impact Analysis, pp. 4-118-119). EPA made adjustments to its VMT modeling "to improve consistency with the CAFE model and with the analysis used to collect the VMT and survival rate data." (RIA, p. 4-121). The RIA further indicates that EPA's approach "is consistent with the MYs 2012-2016 rule. . . . The use of a single growth factor ensures consistency with the AEO projections about future micro and macroeconomic trends and underlying assumptions about consumer responsiveness to those trends." (RIA, p. 4-119, n. www)

According to the agencies' Regulatory Impact Analysis, the EPA approach is both similar to the NHTSA approach and similar to the approach EPA used for the earlier rulemaking. The EPA model is considered a reasonable estimate of future VMT, taking into account the various economic factors that impact VMT. Any assumed loss of fuel savings, therefore, would appear to be a "paper loss" based solely on NHTSA's estimate, not an actual loss based on statistical analyses the agencies have jointly decided to use prospectively.

Harmonizing VMT estimates for all model years of the National Program is particularly important to maintain consistency in manufacturer's compliance planning in light of market conditions. Credit flexibilities – particularly those that align more fully with EPA – are critical to providing the needed support to ensure that a company can meet the requirements of both programs with the same fleet of vehicles. Since NHTSA's VMT estimates appear to have artificially diminished the value of each credit, and since EPA's VMT approach has been modified to align well with CAFE and has been adopted by both agencies as a valid methodology, the Petitioners request that NHTSA reconsider its position and apply the EPA VMT estimates to MYs 2011-2016.

Recommendation: Section 536.4 Credits. Subsection (c):

Change From:

VMTe = Lifetime vehicle miles traveled as provided in the following table for the model year and compliance category in which the credit was earned;

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transitional TLAAS program, and would be adversely impacted by the VMT adjustment, that company should be allowed a one-time option to retain the original VMT estimates.

VMTu = Lifetime vehicle miles traveled as provided in the following table for the model year and compliance category in which the credit is used for compliance;

Change to:

VMTe= 195,264 for passenger cars and 225,865 for light duty trucks

VMTu= 195,264 for passenger cars and 225,865 for light duty trucks

5. *Revise NHTSA Credit Transfer Definition to be More Consistent with EPA*

The Petitioners request NHTSA revise the definition of the term "transfer" in 40 CFR 536.3 to be consistent with language in the 2010 preamble of the proposed rulemaking for 2017-2025 GHG/CAFE standards.

In the 2010 rulemaking, NHTSA made an effort to harmonize, to the extent allowable under the CAFE statute, its credit transfer program with EPA's GHG credit transfer approach. In the preamble to that rulemaking, NHTSA stated: "As a way to improve the transferring flexibility mechanism for manufacturers, NHTSA interprets EISA not to prohibit the banking of transferred credits for use in later model years." Thus, credits could be transferred from one fleet to another (subject to the statutory limitation in 49 USC 32903 (g)(3)), banked in the receiving fleet, and then the "credits could be carried forward or back without limit later if and when a shortfall ever occurred in that same fleet." 75 Fed. Reg. at 25666. Such a treatment of over-compliance credits is illustrated below:

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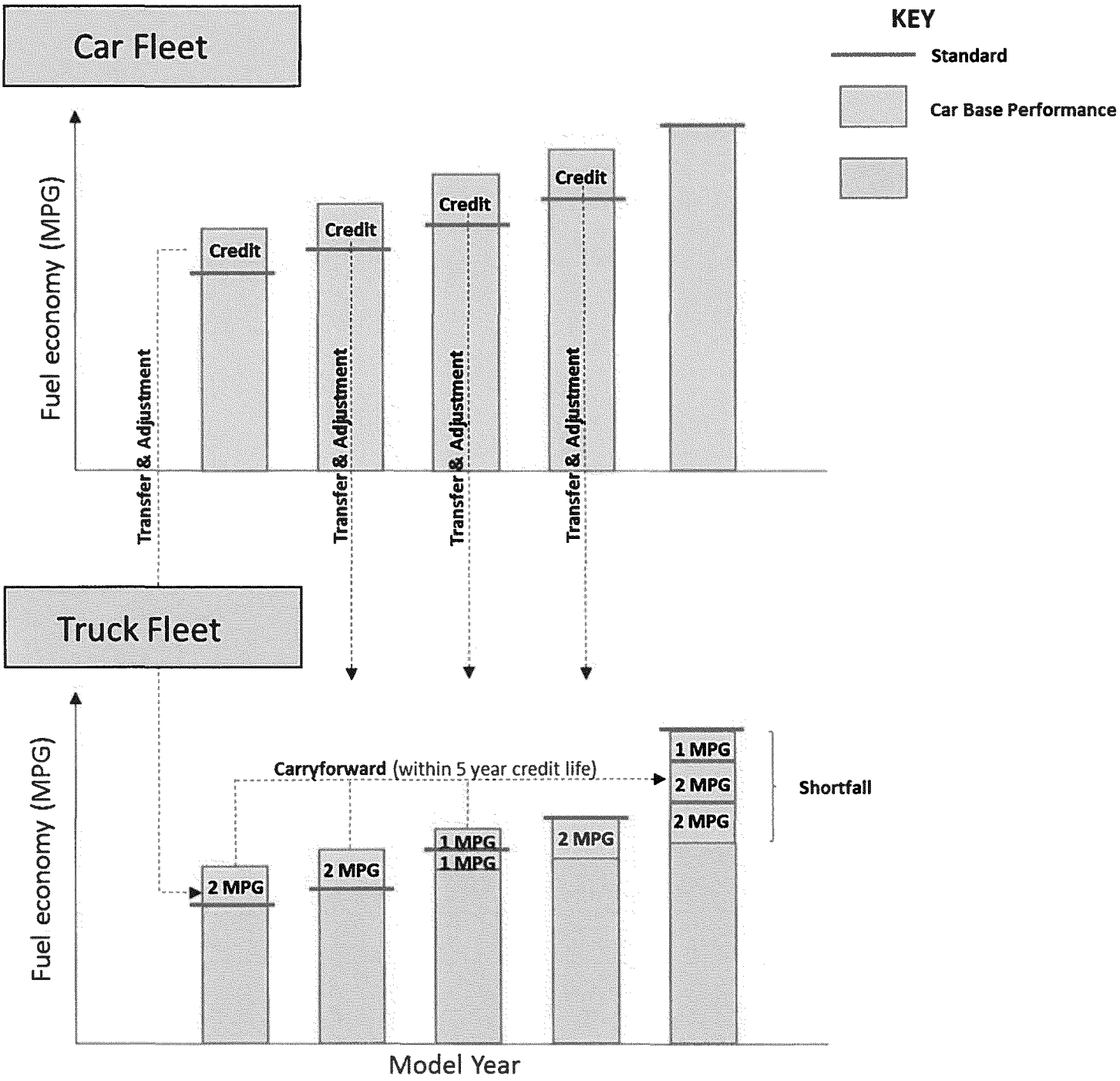


Note: Scenario showing 2 mpg credit transfer limit.

However, in a subsequent interpretation letter to a manufacturer, NHTSA moved away from the language in the preamble and stated that its intent was to apply the statutory limitation at the time the credits are used, as opposed to the time they were transferred and banked by a

manufacturer.[13] The result of this interpretation prohibits the banking and carryforward of credits illustrated in the figure above which is inconsistent with the preamble's stated intent "to harmonize better with EPA's CO2 program." This regulatory interpretation makes the NHTSA and EPA programs very different with regard to the flexibility to earn and use credits for over-compliance with required standards, since EPA allows unlimited transfer of GHG credits between a manufacturer's fleets. This disharmony creates unnecessary burdens and creates unnecessary complexity between the NHTSA and EPA programs.

Recommendation:

At the end of the existing definition of the term "Transfer" in 49 CFR 536.3, add the following:

> The limitation in 49 USC 32903(g)(3) shall apply at the time such credits are transferred. Once transferred, the credits are considered part of the receiving fleet and may be carried forward or back to the same extent that they could have before being transferred. The adjustment factor will be applied at the time credits are used to achieve compliance.

6. Refrain From Imposing Unnecessary Restrictions on The Use of Credits

Both the CAFE program and the GHG program were intended to allow manufacturers to earn credits and to utilize those credits as they deem appropriate to cover any shortfalls. Permitting the companies to manage their credits allows manufacturers to take into account future technology planning. This means that manufacturers with more credits than needed to cover an immediate shortfall should be able to choose which bank of credits to draw from to cover the shortfall and which to hold for future model years.

The Petitioners are concerned about the following language appearing in EPA's Manufacturer's Performance Report for the 2014 Model Year:

> Every manufacturer starts at the same place: by measuring the CO2 tailpipe emissions performance of their vehicles using EPA's City and Highway test procedures (referred to as the "2-cycle" tests). Then they may choose to apply a variety of optional technology-based credits to further reduce their fleet GHG emissions compliance value. The 2-cycle tailpipe CO2 value, when reduced by the net grams/mile equivalent of the optional credits, determines a manufacturer's model year performance and whether credits or deficits are generated by a manufacturer's model year fleet.

EPA-420-R-15-026 (Dec. 2015).

As stated, the language suggests that EPA will initially measure emissions based on the fuel economy testing, and then apply any technology credits (such as off-cycle and air conditioning credits) to determine a manufacturer's fleet performance. Once that performance has been calculated, EPA will determine whether there are over-compliance credits earned or

[13] See letter from O. Kevin Vincent to Toyota dated July 6, 2011.

available under the GHG program and NHTSA will determine whether there are over-compliance credits available under the CAFE program.

The problem with this approach is that it denies manufacturers the ability to get the full benefit of past model year credits that they have earned under the GHG and CAFE programs. Under the credit banking provisions of both programs, manufacturers may earn credits by overachieving the standards in one model year, and apply those credits to offset shortfalls in a future model year. Under the agencies' prescriptive approach to credit management, technology credits earned in the current model year must be immediately applied toward any deficits in the current model year. This approach forces manufacturers to use their credits in a sub-optimal way, and can result in stranded credits.

We suggest that a better approach to calculating compliance is to measure compliance based on each manufacturer's test results, and then allow the companies to apply earned credits as they see fit. Allowing for that flexibility allows each manufacturer to optimize its planning, and does not reduce overall benefits since the credits have already been earned. Unlike "credits" for advanced technologies and alternative fuel capability, which are included in the base fuel economy performance determination, credits earned for air conditioning leakage and efficiency and for the use of off-cycle technologies are tracked and reported separately for the car and truck fleets in the final model year reports.

Our suggested approach is consistent with the way in which the agencies interpreted credit management in the 2009 – 2011 model years ("early credits"), in which manufacturers were able to apply carry forward credits before current model year earned credits were applied. Manufacturers provided the pre-Model Year reports, in which certain credit categories (such as off-cycle credits and air conditioning leakage and efficiency credits) were tracked and listed separately.

Those credits, as well as other Averaging, Banking, and Trading (ABT) credits, should all be available to companies to apply as they see fit. By inserting an artificial priority on the application of those credits, the agencies are imposing the possibility that some credits may expire before they are allowed to be used. That devalues credit creation and unnecessarily detracts from the incentive to develop and deploy novel technology as early as possible.

The Petitioners request the agencies to reconfirm the original approach to allow manufacturers to manage and apply their credits, regardless of the origin of the credits in their accounts. While the current regulations do not preclude the continuation of this optimal credit management, the regulation should be clarified to inform future guidance.

Recommendation

Amend 40 CFR 86.1865(k)(5) to read as follows:

(5) Total credits or debits generated in a model year, maintained and reported separately for passenger automobiles and light trucks, shall be the sum of the credits or debits calculated in

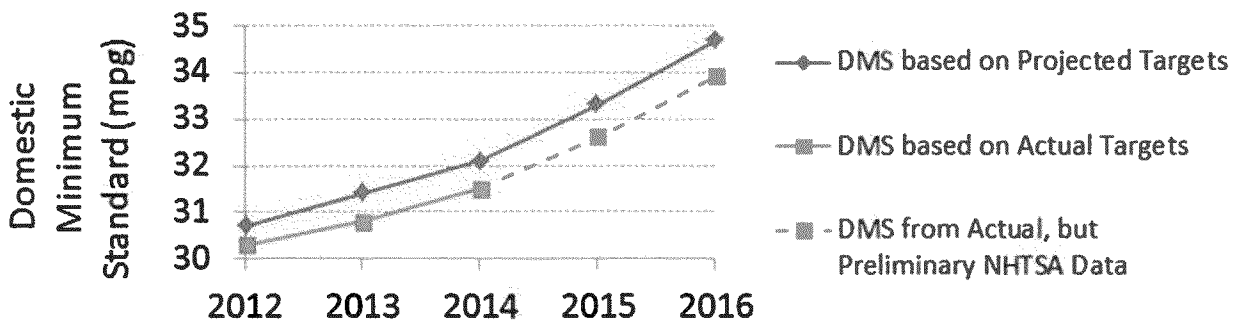
paragraph (k)(4) of this section, ***plus any credits earned in a prior model year and used by the manufacturer to fully or partially offset any such debits in accordance with paragraph (k)(7)(i) of this section, plus*** any of the following credits, if applicable, minus any N_2O and/or CH_4 CO_2-equivalent debits calculated according to the provisions of § 86.1818–12(f)(4):

(i) Air conditioning leakage credits earned according to the provisions of § 86.1867–12(b);
(ii) Air conditioning efficiency credits earned according to the provisions of § 86.1868–12(c);
(iii) Off-cycle technology credits earned according to the provisions of § 86.1869–12(d).
(iv) Full size pickup truck credits earned according to the provisions of § 86.1870–12(c).
(v) N2O and/or CH4 CO2-equivalent debits accumulated according to the provisions of § 86.1818–12(f)(4).

7. *Adjust the CAFE Minimum Domestic Passenger Car Standard to Reflect The Final Standard Applicable to Each Model Year*

NHTSA is required by statute to establish a minimum standard for domestic passenger vehicles that, effectively, is 92% of the average fuel economy projected for the combined domestic and imported passenger automobile fleets manufactured for sale in the United States by all manufacturers in the model year. The projected minimum standard must be published at the same time as the standards upon which they are based and promulgated. *See* 49 U.S.C. § 32902(b)(4).

Fuel economy standards under the attribute-based system should reflect a manufacturer's actual fleet mix. The minimum domestic passenger car standard was intended to protect small car production in the United States by imposing a minimum standard for domestically produced passenger cars. Macro-economic factors play a significant role, however, in the extent to which the projections manifest in later years. Neither the agency nor the manufacturers can fully predict and account for macro-trends impacting the motor vehicle market. As a result, and as NHTSA has intimated in the course of rulemaking, it is appropriate to revisit the projections to base them on the standards for passenger cars that emerge once the fleet mix is settled. The chart below shows the difference that has emerged between the domestic minimum standards based on NHTSA projections and the domestic minimum standard based on the actual passenger car targets.



We believe that the statutory intent was in fact to base the minimum domestic passenger car standard on the final "standard," and not merely on the initial estimate of what the standard might be in the future. This is reflected in the statutory reference to using either the 27.5 mpg traditional passenger car standard or the percentage of the attribute-based standard.

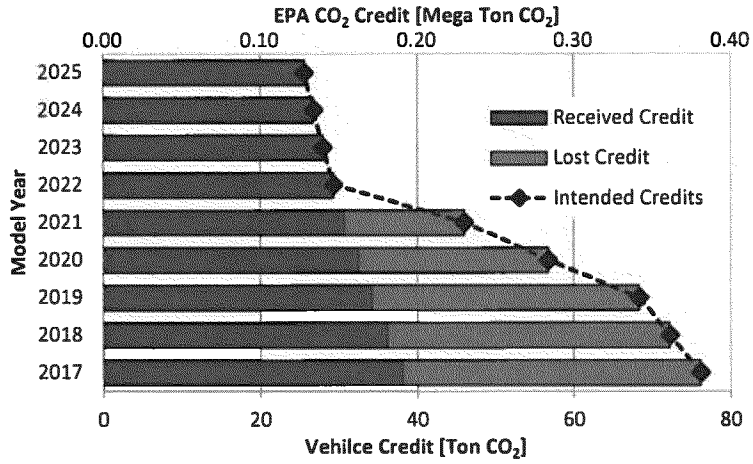
Establishing the minimum domestic passenger car standard in this way takes into account manufacturers' planning as well as unexpected market demand. As long as manufacturers have engaged in a good faith effort to meet the projected minimum domestic passenger car standard, they should not be penalized if market conditions drive consumer choices elsewhere. While the minimum domestic passenger car standard may be well-intentioned, it should be noted that noncompliance despite good faith efforts will not result in more domestic employment, but rather in the unintentional payment of CAFE fines.

Accordingly, NHTSA should adjust the minimum domestic passenger car standard, as finally entered, to reflect 92% of the required average fuel economy passenger car standards in order to maintain consistency with market conditions and the Congressional intent to ensure that efforts are made in good faith to ensure domestic investment in-line with external market forces.

8. Correct the Multiplier for BEVs, PHEVs, FCVs, and CNGs

The GHG program includes volume multipliers for low emission vehicles in order to promote the production of these disruptive technologies and to encourage consumer acceptance. Although not a direct harmonization issue, Petitioners' members have noted that the equation through which the number of earned credits is calculated is inaccurately stated in the regulations. The multiplier goes into effect with MY 2017 and this Direct Final Rule would be an appropriate place to correct the inadvertent error.

The illustration below provides a simple example of the credits received and credits inadvertently lost for a manufacturer that sells 5,000 BEVs in 2017-2021 MYs with the multiplier as finalized. The green bars represent the credit received with the multiplier as finalized in the 2017-2025 final rule and the red bars represent the intended credit.



Originally, the volume multiplier was used to compute the fleet averaged carbon related exhaust emissions. The volume multiplier was incorrectly applied to the vehicle volume (when applicable) in 40 CFR 86.1866 (b) (3). The volume multiplier should be applied to the on-cycle vehicle credit (CO2,i Target – CREEi) of the preferred technologies (e.g. BEV, PHEV, CNG, or FCV). The Petitioners request that EPA correct the advanced credit multiplier calculation.

Recommendation

The methodology ultimately adopted should provide the incentive originally intended by the rule while respecting the fact that some manufacturers have already made plans according to the rules as they exist. Because the derivation of the multiplier equation involves several sections of the regulatory text, we are not proposing specific regulatory changes at this time. The final form of the changes, however, would reflect the following:

CFR Version $CO2\ Credits\ or\ Debits = (STD - CREE_{Avg}) \times VLM \times Production, [Mg]$

Corrected $CO2\ Credits\ or\ Debits = (STD_c - CREE_{Avg,c}) \times VLM \times Production, [Mg]$

CFR Averages $STD = \frac{\sum T \times Vol}{\sum Vol}, \left[{}^{g}/_{mile}\right]$ $CREE_{AVG} = \frac{\sum CREE \times Vol \times M}{\sum Vol \times M}, \left[{}^{g}/_{mile}\right]$

Corrected Averages $STD_c = \frac{\sum T \times Vol \times M}{\sum Vol}, \left[{}^{g}/_{mile}\right]$ $CREE_{AVG,c} = \frac{\sum CREE \times Vol \times M}{\sum Vol}, \left[{}^{g}/_{mile}\right]$

Where:
T = Model Type Footprint Target
M = Multiplier
C = "Corrected"

We look forward to working with the Agency in developing the appropriate regulatory changes.

9. *Provide an Improved Off-Cycle Credit Approval Process*

Although EPA has noted the importance of innovative technologies and encouraged the development of off-cycle credits, in some instances, the agency has been unable to process petitions for off-cycle credits as expected. This has occurred even when a manufacturer has provided all of the requisite information specified in the rule. Moving forward, of course, both agencies will be involved in managing that portion of the program and ensuring that the benefits of these innovative technologies are recognized.

In order to maintain the effectiveness of the off-cycle program, the agencies should:

- re-affirm that technologies meeting the stated definitions are entitled to the off-cycle credits at the values stated in the regulation;
- re-acknowledge that technologies shown to generate more emissions reductions than the pre-approved amount are entitled to additional credit;
- confirm that technologies not in the null vehicle set (the null vehicle being a MY2008 vehicle with naturally aspirated, port fuel injection, fixed cam timing engine, 4 speed transmission, and no weight reduction), but which are demonstrated to provide emissions reductions benefits constitute off-cycle credits; and
- modify the off-cycle program to account for unanticipated delays in the approval process by providing that applications based on the 5-cycle methodology are to be deemed approved if not acted upon by the agencies within a specified timeframe (for instance 90 days), subject to any subsequent review of accuracy and good faith.

Conclusion

The Petitioners seek immediate and direct action on the issues above because their resolution will significantly affect petitioners' ability to comply with the CAFE standards moving forward into MYs 2017-2021. While the later standards for MYs 2022-2025 will be subject to reconsideration, during the interim years petitioners face the prospect of complying with the numerically more stringent GHG standards while not being able – even with the same vehicle fleet and same technology application – to meet the corresponding CAFE standards.

The Petitioners request the agencies issue a Direct Final Rule adopting the modifications set forth above to bring to fruition and to improve the National Program.

The Petitioners look forward to working with the agencies during the mid-term evaluation and analyzing the various technical and policy considerations that will arise during that review.

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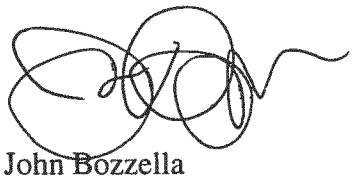
We would be glad to meet with Agency staff to answer any question about the material in this petition.

Sincerely,



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