

Light-Duty Greenhouse Gas

DRAFT Light-duty Greenhouse Gas - Manufacturer Questions and EPA Answers - January 2012

Issue No.	Subject	Regulation Reference	Regulation	Issue	Manufacturer Questions	EPA Answers
Purpose and Scope of this Guidance Document						
<p><i>This document was prepared by EPA's Office of Transportation and Air Quality (OTAQ). It contains a record of EPA positions with respect to implementation of EPA requirements in the light-duty greenhouse gas rule (75 FR 25324, May 7, 2010 and any subsequent revisions to that rule which became effective on or before December 12, 2011). This document contains a record of the answers to the technical questions which EPA received from the light-duty automobile industry before and after EPA's September 23, 2010 light-duty greenhouse gas workshop. Regulated parties may use this document to aid in achieving compliance with the regulations for light-duty vehicles (40 CFR Parts 85, 86 and 600).</i></p> <p><i>This document does not in any way alter the requirements in EPA regulations. Although the answers provided in this document interpret the regulations and indicate general plans for implementation of the regulations at this time, some of the responses may change as additional information becomes available, or as the agency further considers certain issues. The questions and answers contained in this document do not establish or change the legal rights or obligations of manufacturers in complying with EPA regulations. Further, this document does not establish binding rules or requirements and is not fully determinative of the issues addressed. Moreover, EPA decisions in any particular case will be made applying the law and regulations on the basis of specific facts.</i></p>						
1. Application for Certification						
1.1	Application for Certification - Listing part numbers in the Part 2 Application	86.1844-01(e)(1)			<p>Should the following components be listed on the emission related parts list (Part 2 application) for future MY vehicles due to GHG regulation?</p> <ul style="list-style-type: none"> • A/C system (including all sensors and actuators) • Actuator of flexible aerodynamic devices • Sensors and actuators of a cylinder deactivation system • Components of an engine idle start/stop system 	For 2012 and later model years, part numbers of GHG emission-related components and AECs used to comply with CO ₂ (CREE), CH ₄ , N ₂ O emission standards are required to be listed in the Part 2 application; ref. 86.1844-01(e). For 2009-2011 model years, manufacturers may include part numbers of GHG emission-related components and AECs in the early credit report required by 86.1867-12(e), in lieu of including part numbers in the 2009-2011 Part 2 applications. Manufacturers may reference the service manual of the vehicle in lieu of listing part numbers for sensors and actuators for A/C systems, cylinder deactivation systems, stop-start systems, etc. provided the system is listed in the applicable Part 2 application or early credit report. Note that the service manual is required to be contained in the Part 2 application per 86.1844-01(e)(5).
1.2	Application for Certification - Listing GHG AECs in the Part 1 Application	86.1803-01		For criteria pollutants, manufacturers are required to list AECs in the Part I application. Manufacturers are required to list part numbers of emission related components in the Part II application. Manufacturers are required to cover these AECs under the defect warranty.	What is EPA's policy regarding AEC classification for GHG?	Auxiliary emission control devices (AECs) are not discussed in the preamble to the GHG final rule or the Response to Comments document. Manufacturers should use good engineering judgment to determine which design elements for greenhouse gas control meet the definition of an AEC outlined in 86.1803. See EPA answer to question 1.1, above, for additional information about listing part numbers of emission-related components and AECs in the Part 2 application.
2. Credits - A/C Efficiency						
2.1	A/C Efficiency Credits - A/C Idle Test	86.165-12	The preamble to the final rule (75 FR 25431) states that "EPA expects to continue working with industry, the California Air Resources Board, and other stakeholders to move toward increasingly robust performance tests and methods for determining the efficiency of mobile A/C systems and the related impact on vehicle CO ₂ emissions, including a potential adapted SC03 test."		<p>Does EPA intend to modify the idle test procedure for 14MY and after certification?</p> <p>If EPA will not change during above phase, is the projected timing of new test procedure introduction at post 2016MY?</p>	<p>EPA proposed several changes to the 2014-2016 A/C idle test requirements in the light-duty 2017 and later GHG/CAFE proposed rule; ref. 76 FR 74854, Dec 1, 2011. Proposed changes are outlined on pages 76 FR 75006-07 of the preamble to that proposed rule, including:</p> <p>1) revising the A/C idle test CO₂ threshold values which are used to qualify for menu-based A/C efficiency credits;</p> <p>2) revising ambient temperature and humidity test conditions of the A/C idle test; and</p> <p>3) allowing manufacturers to optionally qualify to use menu-based A/C efficiency credits by reporting CO₂ and other information on a new transient A/C test (the AC17 test) in lieu of performing the A/C idle test. The AC17 test is described in the proposed regulations at 86.167-14.</p>
2.2	A/C Efficiency Credits - A/C Idle Test	86.165-12(d)(4)	Measure and record the continuous CO ₂ concentration for 600 seconds. Measure the CO ₂ concentration continuously using raw or dilute sampling procedures. Multiply this concentration by the continuous (raw or dilute) flow rate at the emission sampling location to determine the CO ₂ flow rate. Calculate the CO ₂ cumulative flow rate continuously over the test interval. This cumulative value is the total mass of the emitted CO ₂ .	This requires us to have modal mass method. However, our certification equipment does not have ability for modal mass method.	Is it acceptable to use CVS method as an alternative to modal mass method?	The AC idle test is discussed in the preamble to the final rule, pages 75 FR 25429-31. Yes, it is acceptable to use a CVS system to measure CO ₂ emissions during the A/C idle test. EPA revised the regulations in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011) to clarify this requirement, adding the following sentence to the provisions of 40 CFR 86.165-12(d)(4): "Alternatively, CO ₂ may be measured and recorded using a constant velocity sampling system as described in §§ 86.106-96(a)(2) and 86.109-94."
2.3	A/C Efficiency Credit Calculation	86.1866-12(c)(3)			AC Efficiency Credit via Idle Test – Credits are provided if CO ₂ increase is less than 21.3 g/min. If a vehicle is not equipped with AC at all, can we subtract 21.3 g/min?	No, the GHG idle test and air conditioning credit provisions are not applicable to vehicles not equipped with air conditioning. Please see the provisions of 40 CFR 86.1866-12(c)(3). Those provisions provide that air conditioning efficiency credits generated for an air conditioning system are based on the "Production" of vehicles equipped with an air conditioning system where "Production = The total number of passenger cars or light trucks, whichever is applicable, produced with the air conditioning system to which the efficiency credit value from paragraph (c)(2) of this section applies." [Emphasis added.]

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2.4	A/C Efficiency Credits which require EPA approval	86.1866-12((c)(1)(iii); 86.1866-12((c)(1)(viii); 86.1866-12((c)(6)(v)		How do we demonstrate items for which demonstration is required for AC efficiency credits? Does EPA plan to publish a guidance letter in the near future on these issues?		<p>A/C efficiency credit requirements are discussed in the preamble of the final rule, pages 75 FR 25424-25 and 25427-31.</p> <p>Background: First, for use of A/C efficiency credits, manufacturers are sometimes required to submit an engineering analysis to EPA for approval (for closed-loop and open-loop systems which default to recirculated air at ambient temperatures of 75deg F or higher). Deviations from the 75deg F are allowed if <u>accompanied by an engineering analysis</u>. For example, EPA may approve credits for A/C systems which default to outside air for 10 seconds every 3 minutes to reduce cabin CO2 levels. Second, if using A/C efficiency credits for 1) improved condensers and/or evaporators and 2) oil separators, <u>manufacturers are required to submit an engineering analysis to EPA</u>. Please see EPA answers to questions 2.7 and 2.8, below.</p> <p>Manufacturers should submit any required engineering analyses to EPA in a letter to their EPA certification team member prior to or concurrently with the pre-model year report.</p> <p>EPA has no plans to publish a guidance letter on this issue.</p>
2.5	A/C Efficiency Credits - A/C Idle Test	86.165-12; 86.1866-12(c)(5)	Testing of vehicles that have dual AC systems, or front and rear seat cooling systems, or cooler box options, are not addressed in the regulation.	<p>1. Should the rear A/C system be operational when conducting the A/C idle test?</p> <p>2. Is 33% optional equipment criteria applicable to A/C idle test vehicles?</p>		<p>The AC idle test is discussed in the preamble to the final rule, pages 75 FR 25429-31, and outlined in the regulations at 86.165-12 and 86.1866-12(c)(5).</p> <p>1. For dual A/C systems, systems with cooler box options, systems with driver-operated ECO buttons, etc., the A/C idle test should be conducted with the A/C system in the default (key-off) mode. For example, if the A/C system normally defaults on key-off to front A/C only, the A/C idle test should be conducted with the front A/C on (and the rear A/C off). Conversely, if the A/C system does not default on key-off to front A/C only, the A/C idle test should be conducted with both front and rear A/C on.</p> <p>2. For optional A/C equipment, manufacturers should contact their EPA certification representative and obtain EPA approval prior to conducting the test.</p> <p>The details of A/C idle test procedure for PHEVs, vehicles equipped with stop-start system and new technology systems will be addressed in future guidance.</p>
2.6	A/C Efficiency Credits - Default to Recirculated A/C mode	86.1866-12(c)	<u>A/C Default to re-circulated air mode:</u> Per the regulation, AC-CO2 credits would not be applicable for a system, as described below: "When system does not default to re-circulated air with closed-loop control of the air supply, but operators can select more efficient AC operation with re-circulated air with closed-loop control of the air supply."	Does EPA allow CO2 credit on applications which activate a more efficient AC operation mode using re-circulated air with closed-loop control of the air supply? (For example, ECO type switch.)		<p>A/C efficiency credit requirements are discussed in the preamble of the final rule, pages 75 FR 25424-25 and 25427-31. The provisions of 86.1866-12(c) do not allow EPA to approve special A/C efficiency credits (or partial credits) on a case-by-case basis for A/C systems which are not listed in 86.1866-12(c) (or for variations of A/C systems which are listed in 86.1866-12(c)(1)). Thus, A/C systems would receive no credit if the driver-operated ECO button was designed <u>not</u> to default to recirculated air upon key-off. Conversely, A/C systems would receive full credit if the A/C system were designed to default upon key-off to recirculated air.</p> <p>Also see EPA answer to question 2.5, regarding the A/C idle test.</p>

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2.7	A/C Efficiency Credits - Improved Condensors and/or Evaporators	86.1866-12((c)(6)(v)		Demonstration, certification and approval process are unclear and 2012MY certification timing presents a concern because 2012MY certification is already underway.	1. When and how should manufacturers demonstrate COP of the system is improved higher than 10%? 2. Regarding AC system which achieves 10% or higher COP improvement, will EPA consider additional credit beyond 1.1g?	A/C efficiency credit requirements are discussed in the preamble of the final rule, pages 75 FR 25424-25 and 25427-31. 1. See EPA answer to question 2.4 above. To receive the 1.1 g/mile credit for improved condensors and/or evaporators, manufacturers should follow the procedure outlined in 86.1866-12((c)(6)(v) (which requires the manufacturer to submit an engineering analysis each model year for EPA approval). The engineering analysis should compare the coefficient of performance (COP) of the current model year system to the COP of the previous generation A/C system used in that vehicle model or platform (where COP is measured according to SAE procedure J2765). For example, if a new generation A/C system goes into production in 2012-2014 model years, the 2012-2014 engineering analyses should compare the COP of the 2012-2014 system to the COP of the 2011 system. Similarly, if a new generation A/C system goes into production in the 2015 model year, the 2015 engineering analyses should compare the COP of the 2015 system to the COP of the 2012-2014 system. 2. The provisions of 86.1866-12(c)(6)(v) do not allow EPA to approve special A/C efficiency credits on a case-by-case basis for A/C systems which have a COP improvement greater than 10%.
2.8	A/C Efficiency Credits for Improved Oil Separator	86.1866-12((c)(1)(viii) 86.1866-12(c)(6)(vi)		Demonstration, certification and approval process are unclear and 2012MY certification timing presents a concern because 2012MY certification is already underway.	When and how should manufacturers demonstrate Oil Separator effectiveness? (i.e. At least 50% of the oil entrained in the oil/refrigerant mixture exiting the compressor returns it to the compressor housing or)	See EPA answer to question 2.4 above. A/C efficiency credit requirements are discussed in the preamble of the final rule, pages 75 FR 25424-25 and 25427-31. To receive the 0.6 g/mile credit for an improved oil separator, manufacturers should follow the procedure outlined in 86.1866-12((c)(1)(viii) (which requires the manufacturer to submit an engineering analysis each model year for EPA approval). The engineering analysis should compare the current model year oil control system to the to the "baseline" oil control system used on the previous generation A/C system used in that vehicle model or platform, as discussed in question 2.7 above. For example, a manufacturer could measure the oil circulation rate in the baseline configuration, and then compare it to the oil circulation rate of the new configuration. As outlined in 86.1866-12(c)(6)(vi), if the new configuration eliminates 50% of the oil that was circulating in the baseline system, vehicles equipped with the new oil control system would qualify for the 0.6 gr/mile "oil separator" credit.

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2.9	A/C Efficiency Credits - A/C Idle Test Procedure for vehicles equipped with stop-start systems	86.1866-12(c)(5); 86.165-12			<p>1. Starting with MY 2014, A/C efficiency credits can only be received if a certain efficiency is proven using a special engine idle test procedure described in §86.165-12. We are wondering how this procedure would work with vehicles using an engine Start/Stop system. In this case, the engine will not run in the first part of 10 min with A/C off but will run in the second 10 min with A/C on, which will always result in raising CO2 emissions above 21.3 g/min which means that no credit will be received. Therefore, we think that for vehicles with an engine Start/Stop system, the system should be deactivated during the whole procedure (10 min idle with A/C off and 10 min idle with A/C on). Another option could be if the approach for compressors driven by electricity is transferred to vehicle with Start/Stop systems. In this case, the system is deemed to be energy efficient if the engine is stopped for a period off at least 2 minutes (p. 1353).</p> <p>2. Regarding BEVs, it is our understanding that the efficiency requirement is always met because the traction engine is always off during "idle."</p> <p>3. What about PHEVs? Must the engine off period of 2 min be demonstrated in the charge depleting or in the charge sustaining mode?</p>	<p>The AC idle test is discussed in the preamble to the final rule, pages 75 FR 25429-31. For background information, please see EPA answers to questions 2.1, 2.2, 2.3 and 2.5 above. Especially see EPA answer 2.1 above regarding proposed changes to the 2014-2016 A/C idle test requirements.</p> <p>1. Idle test requirements for vehicles equipped with stop-start systems will be addressed in future EPA guidance. Our initial thoughts are that EPA approval will be required and that each stop-start design will be evaluated on a case-by-case basis (because each stop-start design is likely to have different operation characteristics and calibration parameters).</p> <p>2. EPA agrees that battery electric vehicles would meet the idle testing requirement outlined in 86.1866-12(c)(5)(iv) by design (and thus would not be required to conduct the idle A/C test).</p> <p>3. Idle test requirements for PHEVs will be addressed in future EPA guidance.</p>
3. Credits - A/C Leakage						
3.1	A/C Leakage Credits - Alternative Refrigerants	86.1866-12(b)		GHG credit for refrigerant with low GWP is defined in the regulation and GHG standards were based on availability of available alternative refrigerants (i.e. HFO-1234yf).	Currently HFO-1234yf is costly and has limited availability. What is EPA's role in ensuring availability of these low GWP alternative refrigerants?	Title IV refrigerant regulations are discussed in the preamble to the final rule (pages 75 FR 25431-32) and in the preamble to the 2017 and later light-duty GHG/CAFE proposed rule, (pages 76 FR 75002-05, Dec 1, 2011). EPA's Stratospheric Protection Division; Office of Air Programs (located in Washington, D.C.) is responsible for approving new refrigerants.
4. Credits - General Questions						
4.1	Credits - Good Faith Effort to Purchase Credits	86.1801(k)(3)	"To be exempted from the standards..... the manufacturer must submit.....and documentation of good-faith effort to purchase credits from other manufacturers."	Obtaining GHG credits.	Proof of effort expended to obtain credits – due diligence - what is expected of an small volume manufacturers to prove this?	Conditional exemption from greenhouse gas requirements is discussed in the preamble of the final rule, pages 75 FR 25419-21 and 75 FR 25483. This question will be addressed on a case-by-case basis for each small volume manufacturer and possibly in future EPA guidance.
4.2	Credit Calculations - Vehicle Lifetime Miles	86.1865-12(k)(4); 86.1866-12(b), (c),	Final GHG rule.	Credit/debt calculation.	For credit/debit calculation we believe the 195,264 miles assigned lifetime is unrealistic and creates an unnecessary burden. Does (we suggest) a small volume manufacturer have the opportunity to justify a realistic vehicle lifetime based on customer usage profiles?	The basis for the 195,264 lifetime VMT for cars and 225,865 for trucks is outlined on pages 4-76 and 5-35 of the EPA Response to Comments document available at http://www.epa.gov/otaq/climate/regulations.htm#1-1 . The car and truck lifetime VMT mileages are used only to facilitate credit transfers between car and truck credit programs. Thus, the important feature of these VMT values is the ratio of the car and truck lifetime VMT values, and not the absolute value of the lifetime VMT mileages. The absolute values of the car and truck lifetime VMT values, by themselves, do not create any additional burden for manufacturers. For this reason, regulations do not provide small volume manufacturers with an opportunity to use alternative lifetime VMT values.

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5. Durability Requirements						
5.1	Durability - Alternative DFs for N2O, CH4, CREE	86.1823-08(m)(2)(iii)&(3)	(m)(2)(iii) For the 2012 through 2014 model years only, manufacturers may use alternative deterioration factors. For N2O, the alternative DF to be used to adjust FTP and HFET emissions is the additive or multiplicative DF determined for (or derived from, using good engineering judgment) NOx emissions according to the provisions of this section. For CH4, the alternative DF to be used to adjust FTP and HFET emissions is the additive or multiplicative DF determined for (or derived from, using good engineering judgment) NMOG or NMHC emissions according to the provisions of this section.	Because additive deterioration factors (DFs) are absolute values of emission deterioration for each emission constituent, it is difficult to apply an additive DF for an emission constituent as it is to other emission constituent, which has a different emission standard.	We think we need compensation when we use an additive DF for other emission constituents with different emission standards. Is this acceptable? For example of NOx and N2O, additive DF for N2O = additive DF for NOx/(NOx std./N2O std.)	<p>We agree with the comment and revised 86.1823-08(m)(2)(iii) in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011). The regulation changes are shown in redline text in column 4. Note that EPA inadvertently overwrote those changes in the Heavy-duty GHG final rule (76 FR 57106, Sept 15, 2011). As a result, the language in column 4 is now contained in the light-duty 2017 and later GHG/CAFE proposed rule; ref. 76 FR 74854, Dec 1, 2011.</p> <p>We also revised paragraph 86.1823-08(m)(3) in the Heavy-duty GHG final rule (76 FR 57106, Sept 15, 2011) to clarify that 1) manufacturers may determine city and highway CREE (or OCREE) DFs instead of determining DFs for each individual constituent that is contained in CREE (or OCREE); and 2) manufacturers may use the applicable FTP (city) DF for the highway test for an emission constituent. Note that the provision to use the FTP DFs for highway tests does not apply to the alternative method of determining CO2 DFs outlined in the provisions of 86.1823-08(m)(1)(iii).</p> <p>For example, paragraph (m)(3) was revised in the Heavy-duty GHG final rule to read in part: "....FTP-based deterioration factors shall be determined for carbon-related exhaust emissions (CREE), hydrocarbons and CO according to the provisions of paragraphs (a) through (l) of this section. The FTP-based deterioration factor shall be used to determine full useful life emissions for both the FTP (city) and HFET (highway) test cycles. The manufacturer may at its option determine separate deterioration factors for the FTP and HFET test cycles...."</p>
5.2	Durability demonstration procedures for GHG emission standards.	86.1823-08(m)		Timeline for demonstration.	<p>1. Because 2012MY durability has begun, is it acceptable to demonstrate by MY report timing (90 days after the end of 2012MY)?</p> <p>2. Applicability: Is this applicable to AC components and system, off-cycle technology and so on during 2009-2011MY?</p> <p>3. Demonstration Procedure: When and how should AC durability demonstration be performed?</p> <p>4. Will EPA provide standard procedures for eligible AC and off-cycle technologies, or will EPA require manufacturers to consider original durability procedure and get EPA's approval before getting AC credit approval?</p>	<p>1. No, not allowed by current regulations.</p> <p>2. Durability requirements for air conditioning systems and components (and other credit-generating components) are outlined in the preamble to the final rule (page 75 FR 25425) and in 40 CFR 86.1823-08(m)(4) which reads as follows: "Manufacturers will attest to the durability of components and systems used to meet the CO2 standards. Manufacturers may submit engineering data to provide durability demonstration." Thus, deterioration factors are not applicable to emission-related components used to obtain A/C leakage or A/C efficiency credits .</p> <p>3. Durability demonstration for A/C and other credit components should be performed prior to certification. The attestation required by 86.1823-08(m)(4) should be included in the initial Part 1 application for certification.</p> <p>4. EPA will not provide standard durability procedures for eligible AC and off-cycle technologies. Durability requirements for CO2 (CREE), N2O, CH4, methanol, ethanol, HCHO, and C2H4O emissions are addressed in 86.1823-08(a) through (m), similar to other criteria pollutants. See parts 2 and 3 of this question for durability requirements for credit components such as A/C leakage, A/C efficiency and off-cycle components.</p>
6. Early Credits (2009-2011 Model Years)						
6.1	Early A/C Credit Provisions	86.1867(b)(2)	Manufacturers that are required to comply with California greenhouse gas requirements in model years 2009-2011 (for California and section 177 states) may not generate early air conditioning credits for vehicles sold in California and the section 177 states as determined in paragraph (a)(2)(i) of this section	As you know, most manufacturers have to comply with Pavley1 during 2009-2011MY. [EPA comment: Small & intermediate mfrs don't have to meet CARB 2009-2011 GHG requirements.] Then, most manufacturers cannot obtain in A/C credit if they select pathway2, right? And it's strange that pathway1 can generate A/C credit, which uses Pavley1's standard.		<p>EPA revised the regulations in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011) deleting this requirement. The provisions of 40 CFR 86.1867(b)(2) were revised to read:</p> <p>"Manufacturers that select Pathway 4 as described in paragraph (a)(4) of this section may not generate early air conditioning credits for vehicles sold in California and the section 177 states as determined in paragraph (a)(2)(i) of this section. Manufacturers not participating in one of the early fleet average credit pathways described in this section may generate early air conditioning credits only for vehicles sold in states other than in California and the section 177 states as determined in paragraph (a)(2)(i) of this section."</p>

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6.2	Early Credit Trading	86.1865-12(k); 86.1867-12(a)(1)(vi), (a)(2)(iii), (a)(3)(viii), (a)(4)	Final GHG rule.	Early Credit Trading	Are manufacturers allowed to trade early credits (generated during 2009-2011MY) to other OEM's?	Early credit provisions are outlined in the preamble of the final rule (75 FR 25441-44) and in 86.1867-12. Averaging, banking and trading provisions are outlined in the preamble of the final rule (75 FR 25412-14) and in 86.1865-12(k). If a manufacturer selected pathways 1, 2, or 3, credits earned in 2009 may not be traded to other mftrs (including A/C leakage, A/C efficiency, advanced technology, and off-cycle credits), ref. 75 FR 25442. All other credits may be traded to other mftrs (ref. 86.1865-12(k)(7) and 75 FR 25414) subject to the limitations of 86.1865-12(k)(9); reporting requirements of 86.1865-12(l)(2), etc. Note that the provisions of 86.1865(k)(9)(iv) prohibit a manufacturer from trading credits which will result in the manufacturer having a debit at the end of the model year that the credit was traded.
6.3	Early Credit Provisions - Production vs. Actual Sales Data	86.1867-12 introductory paragraph and 86.1867-12(a)(1)		Pathway 1 states that "Total U.S. model year sales data will be used, instead of production data," as well as the preamble stating, "...manufacturers using Pathway 1 or 2 will use year-end car and truck sales in each category."	For Pathway 1, we believe total U.S. production should be also allowed, as this is consistent with the CAFE calculation procedure. Can we use total U.S. production for early credit calculation of pathway 1?	Early credit provisions are outlined in the preamble of the final rule (75 FR 25441-44) and in 86.1867-12. Currently the introductory text in paragraph of 86.1867 reads in part "The terms "sales" and "sold" as used in this section shall mean vehicles produced and delivered for sale in the states and territories of the United States." This introductory paragraph conflicts with paragraph 86.1867-12(a)(1)(iii)(A) which reads "Total U.S. model year sales data will be used, instead of production data." EPA agrees that for Pathways 1, 2, 3 and 4, tracking production data (instead of sales data) is an acceptable method of tracking vehicles delivered to the point of first sale (which is the dealer). Therefore, EPA revised the regulations in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011) , deleting the requirement to use sales data in paragraph 86.1867-12(a)(1)(iii)(A).
7. High Altitude Requirements						
7.1	High Altitude Standards	86.1818(d); 86.1841(a)(3) 86.1810-09(f),(2)		Our understanding is that CO ₂ , N ₂ O and CH ₄ must comply with high altitude standards similar to other emission pollutants. Is our understanding correct?	However, how should we prove the compliance with CO ₂ high altitude standards because in-use CO ₂ standard is decided as 1.1 x (New vehicle CO ₂).	High altitude greenhouse gas requirements are discussed in the preamble of the final rule on page 75 FR 25484. CO ₂ /CREE, N ₂ O, and CH ₄ standards are all altitude standards, ref 86.1810-09(f). In-use standards for high altitude testing are outlined in 86.1818(d). As background information for this question, EPA compared high & low altitude IUPV CO ₂ data. Out of 102 matching pairs of high and low altitude IUPV vehicles, three high alt IUPV vehicles had CO ₂ levels 10% higher than the matching low altitude IUPV vehicle. For certification N ₂ O and CH ₄ compliance, manufacturers have the option to test a vehicle at high altitude or submit a compliance statement in the application in lieu of testing. However, the compliance statement does not apply to CO ₂ (CREE) because there are no CO ₂ (CREE) certification standards. See EPA answer to question 7.2 regarding the requirement to submit an engineering evaluation indicating that for N ₂ O, CH ₄ and CO ₂ (CREE), common calibration approaches are used at high altitude. For in-use, the IUPV vehicle tested at high altitude must pass the in-use CO ₂ standard, which is the city/highway combined CO ₂ (CREE) for the matching subconfiguration represented with test data (or model type CO ₂ (CREE) if the IUPV configuration does not match any tested configuration) multiplied by a factor of 1.1.

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7.2	High Altitude Standards	1810-09 (f) 86.1829-01(b)(1)(ii)	<p>86.1810-09 (f) Altitude requirements...</p> <p>(2) For vehicles that comply with the cold temperature NMHC standards... and the CO₂, N₂O and CH₄ exhaust emission standards described in 86.1818-12, manufacturers must submit an engineering evaluation indicating that common calibration approaches are utilized at high altitudes (except when there are specific high altitude calibration needs to deviate from low altitude emission control practices). Any deviation from the low altitude emission control practices must be included in the AECD descriptions submitted at certification. Any AECD specific to high altitude must require engineering emission data for EPA evaluation to quantify any emission impact and validity of the AECD.</p>	<p>Our understanding is that CO₂, N₂O and CH₄ emissions also have to meet compliance with high altitude standards, similar to the other emission constituents.</p>	<p>1. Can EPA confirm this understanding? If this understanding is correct, can EPA clarify how a manufacturer should prove CO₂ high altitude compliance since the in-use CO₂ standard will be determined as 1.1 x New vehicle CO₂.</p> <p>2. EPA answered this on slide 68, bullet3, subbullet 1-- "Engineering evaluation required in Part 1 for CO₂, CH₄, N₂O: Common calibration approaches are used at high altitudes." However, since EPA already requires compliance with emission standards at altitude, there is no need for a further compliance statement that the calibration approaches are the same at high altitude as at low altitude. Indeed, the opposite may be true to ensure compliance with emission standards at high altitude. We recommend this subbullet be deleted.</p>	<p>High altitude greenhouse gas requirements are discussed in the preamble of the final rule on page 75 FR 25484 and in 86.1810-09(f).</p> <p>1. EPA agrees with your understanding that CO₂/CREE, N₂O, and CH₄ standards are all altitude standards, ref 86.1810-09(f). The second part of this question is answered in question 7.1, above.</p> <p>2. EPA believes that it is appropriate to require in the Part 1 application the high altitude compliance statement required by 86.1829-01(b)(1)(ii) and an engineering evaluation that common calibration approaches are used at high altitude required by 86.1810-09(f). However EPA agrees with the comment that sometimes different high altitude calibration approaches may be needed. Therefore, EPA intends to clarify the provisions of 86.1810-09(f) (as shown in the redline text in column 4 at the next opportunity. In those cases where common calibration approaches are different at high and low altitude, the high-altitude calibration approach should be included in the AECD description in the Part 1 application as required by 86.1844-01(d)(11).</p> <p>EPA would consider the requirement to use common calibration approaches at high altitude to be satisfied in cases where a vehicle used similar calibrations, software and elements of design at low and high altitudes during hot/cold starts, hot/cold ambient conditions, hot/cold engine operation, etc. Calibration approaches, for example, would include (but are not limited to) idle speeds, spark advance, air/fuel ratio, valve timing, transmission shift and lock-up schedules and EGR calibration strategy. For hybrid vehicles, calibration approaches would also include the electric operation strategy of the vehicle.</p>
8. In-Use Requirements						
8.1	In-Use Requirements - Emission Related Defect Definition	85.1902(b)(2)	<p>"A defect in the design, materials, or workmanship in one or more emissions control or emission-related parts, components, systems, software or elements of design which must function properly to assure continued compliance with vehicle emission requirements, including compliance with CO₂, CH₄, N₂O, and carbon-related exhaust emission standards."</p>	<p>The preamble describes this regulatory change (that is, the adding of paragraph 2) as: (1) A minor clarification, (2) Effective beginning with the 2012 model year and (3) Requiring the reporting of defects related to GHG emissions.</p>	<p>Do you interpret this change as 1) preserving the existing definition from the 1977 rule that defines an emission-related defect and 2) expanding the definition also to include defects that affect GHG emissions? I am concerned that some may misinterpret this new regulation to suddenly require the reporting of defects that do not affect emissions (Appendix VIII is not mentioned, and the "assured continued compliance" phrase only adds words to describe the part, not what the defect could upset), and to create a new definition of a defect related to non-GHG emissions (that is, believing the original definition in paragraph 1 is obsolete via a broader definition in paragraph 2). We are happy to offer several ways to improve the clarity, either by tweaking very few words, or re-writing the section. Whatever the outcome, I believe it would be helpful if the regulatory text in paragraph 2: Required reporting for defects that affect compliance Related specifically to 2012 and later GHG emission defects (preserving paragraph 1 for non-GHG related defects).</p>	<p>EPA intended to preserve the existing definition from the 1977 rule that defines an emission-related defect and expand the definition also to include defects that affect GHG emissions. EPA revised the regulations in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011) to amend the definition contained in 40 CFR 85.1902 (b) (2) as follows:</p> <p>"A defect in the design, materials, or workmanship in one or more emissions control or emission-related parts, components, systems, software or elements of design which must function properly to assure continued compliance with greenhouse gas emission standards."</p>
8.2	In-use Standards for PHEV/EV vehicles	86.1866-12(a)(2)			<p>How will the 1.1 in-use standard be applied to EVs and PHEVs? We assume it won't affect EVs up to the 200K/300K 0 g/m cap...but, how about after the cap? How about PHEVs?</p>	<p>The 1.1 in-use standard will apply to all of your product line subject to GHG--- please read the regulations and preamble for the details of what in-use standard applies to what vehicles. Of course, EVs, fuel cell vehicles and the electric portion of PHEVs are entitled to use zero CREE emissions---so there won't be much point in EPA performing confirmatory testing of EVs and fuel cell vehicles-- or the electric portion of PHEVs. After a manufacturer exceeds the production volume limits in 86.1866-12(a)(2), the 1.1 standard will be determined/applied to EVs, PHEVs and fuel cell vehicles similar to the way it is determined/applied to conventional vehicles.</p>

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8.3	In Use Requirements - Emission Related Defect Definition	85.1902		<p>Emission Related Defect Definition: "A defect in the design, materials, or workmanship in one or more emissions control or emission-related parts, components, systems, software or elements of design which must function properly to assure continued compliance with vehicle emission requirements, including compliance with CO₂, CH₄, N₂O, and carbon-related exhaust emission standards;"</p> <p>1. Would EPA require to count each claim or failure of a system or part which is in the vehicle to reduce CO₂ as an emission related defect?</p> <p>2. Even if the system results in small CO₂ benefit (less than 10%) and the CO₂ standard will not be failed?</p>		<p>See answer 8.1 above regarding the Emission Related Defect Definition.</p> <p>1. Manufacturers should treat each claim or failure separately, except for system failures (e.g. when three components in the cylinder deactivation system fail and all have more than 25 failures).</p> <p>2. As is the case with current defect reporting requirements, manufacturers are required to report defects in emission-related parts, components, systems, software or elements of design; regardless of whether the defect causes the vehicle to exceed applicable emission standards.</p>
8.4	In-Use CO ₂ (CREE) Standards - Based on Data Substitution & Analytical Data	86.1818-12(d)		When establishing/calculating in-use CO ₂ standards, EPA says that the value should be based on the subconfiguration value and if no subconfiguration value is available, the value should be based on model type.	When determining whether data exists for the subconfiguration, are we only to consider actual test data or do we also include data substitutions and/or analytically derived data?	In-use standards are discussed in the preamble to the final rule, page 75 FR 25476-77 and in the provisions of 86.1818-12(d). As discussed in those provisions, the GHG data used to determine in-use standards include all carline/subconfiguration data used to demonstrate compliance with the CO ₂ (CREE) fleet average emission standards, including data substitution data, engine code equivalency data, analytically derived CREE data, etc.
9. Miscellaneous Questions						
9.1	Miscellaneous - CAFE	600.512-08(c)(8)	CAFE Model year report	CAFE footprint standards calculator.	Where does the EPA reformed CAFE calculator fit into this ruling?	The reformed CAFE footprint Calculator (Excel spreadsheet) is currently used to determine the CAFE standards for 2008-2016 reformed CAFES. EPA supplied this calculator (entitled EPA 2008-2016 Reformed CAFE STD Calculator.9-30-10.xls) to the Industry in October, 2010. EPA anticipates that the Excel spreadsheet calculator will be replaced by EPA's Verify data base system for 2012 model year CAFES (and 2012 CAFE/greenhouse gas calculations).
9.2	Miscellaneous - CREE (Intermingling of CO ₂ and CREE terms)	86.1803-01 and 600.002-08 - Definition of Carbon-related exhaust emissions			Why are CO ₂ equivalents mentioned sometimes and sometimes CREE?	The intermingling of CO ₂ and CREE terms are discussed in the Response to comments document page 5-460. The GHG regulations refer to CO ₂ standards (although CREE emissions are measured and compared to the CO ₂ standards) because CO ₂ standards are easier for the general public to understand. In addition, the definition of carbon-related exhaust emissions (CREE) outlined in 600.002-08 provides some clarification as follows: "For example, carbon-related exhaust emissions (weighted 55 percent city and 45 percent highway) are used to demonstrate compliance with fleet average CO ₂ emission standards outlined in 86.1818(c) of this chapter."
9.3	Miscellaneous - Footprint Tolerances	86.1803-01 and 600.002-08 - Definition of Footprint			When does EPA or NHTSA plan to publish acceptable or default tolerances for the footprint values? Is this something EPA can answer on its own or does this have to come from NHTSA?	EPA is concerned about the design tolerances of footprint measurements and will work with NHTSA to address this issue in the future. NHTSA published a recommended laboratory test procedure to measure footprints, ref. TP-537-01, Mar 30, 2009 available at http://www.nhtsa.gov/DOT/NHTSA/Vehicle%20Safety/Test%20Procedures/Associated%20Files/TP-537-01.pdf . EPA would consider it to be a violation of the terms of the certificate if a manufacturer's production footprint measurements were noticeably different (e.g. resulting in smaller production footprints) than the footprint measurements submitted in the model year report.

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9.4	Miscellaneous - EPA Verify data base revisions for GHG requirements				<p>Is EPA implementing a fleet-average CREE calculation program into Verify?</p> <p>How would EPA inform manufacturers as to what inputs to the system will be required (i.e. meetings, workshop).</p>	<p>Yes, EPA will be working with manufacturers throughout 2010, 2011 and 2012 to implement GHG changes into EPA's Verify data base system. EPA has been working with the Verify contractor over the past year. A brief outline of planned Verify changes was provided at the September 23, 2010 EPA/Industry GHG workshop--see slide 83 of the presentation. EPA held the first webinar meeting on November 17, 2010. EPA deployed some GHG data base changes on May 13, October 14 and December 16, 2011. The next deployment is scheduled for May or June of 2012.</p> <p>Additional information about upcoming Verify changes and upcoming meetings will be provided via the EPA list server.</p>
9.5	Miscellaneous - Regulatory Text Correction/Typo	86.1818-12(d) 600.113-12(g)(4)		<p>1. 86.1818-12(d) In-use CO2 exhaust emission standards., there is an incorrect reference to "600.113-08(g)(4)", should be "600.113-12(g)(4)".</p> <p>2. In 600.113-12(g)(4), there is an incorrect reference to "600.113(a) and (b)", 600.113(a) and (b) deal with calculating FTP and HWFE fuel economy not CREE.</p>	EPA typos, as noted in the Reference column.	<p>1. EPA revised the regulations in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011), revising the incorrect reference from 600.113-<u>08</u>(g)(4) to 600.113-12(g)(4).</p> <p>2. EPA agrees with the comment regarding the provisions of 600.113-12(g)(4) which incorrectly reference 600.113-12(a) and(b). EPA revised the regulations in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011), revising the incorrect reference from 600.113-12(a) and (b) to 600.113-12(h) through (n).</p>
9.6	Miscellaneous - Regulatory Text Correction/Typo	86.135-12(d)	<p>Previously, the provisions of 86.135-00(d) read as follows: Practice runs over the prescribed driving schedule may be performed at test point, provided an emission sample is not taken, for the purpose of finding the appropriate throttle action to maintain the proper speed-time relationship, or to permit sampling system adjustment. Both smoothing of speed variations and excessive accelerator pedal perturbations are to be avoided. When using two-roll dynamometers a truer speed-time trace may be obtained by minimizing the rocking of the vehicle in the rolls; the rocking of the vehicle changes the tire rolling radius on each roll. This rocking may be minimized by restraining the vehicle horizontally (or nearly so) by using a cable and winch.</p>	<p>The description in 40CFR 86.135(d) of the GHG final rule reverts to the description from the 1990 MY version. We believe this was an oversight. Details of text below:</p> <p>Current 86.135-12(d) reads as follows: Practice runs over the prescribed driving schedule may be performed at test point, provided an emission sample is not taken, for the purpose of finding the minimum throttle action to maintain the proper speed-time relationship, or to permit sampling system adjustment. Note: When using two-roll dynamometers a truer speed-time trace may be obtained by minimizing the rocking of the vehicle in the rolls; the rocking of the vehicle changes the tire rolling radius on each roll. This rocking may be minimized by restraining the vehicle horizontally (or nearly so) by using a cable and winch.</p>	Request that EPA amend the regulatory text to reflect the previous/correct language contained in 86.135-00(d).	EPA agrees with the comment and will revise the regulations at the next opportunity.
10. Penalties						
10.1	Penalties	preamble to the final rule section III.E.4 and 6 (pages 75 FR 25473-77 and 25482			<p>In case model type CREE emissions go over the in-use standard level, re-calculation of the fleet average or/and a recall is possible, correct?</p> <p>If CO2 improvement measures are available/feasible, certain models can be recalled and appropriate fixes will be applied...what if there is no fix/remedy available?</p>	<p>Please read the preamble to the final rule section III.E.4 and 6 (pages 75 FR 25473-77 and 25482). Also, those subjects are addressed in the EPA Response to comments document pages 5-359 to 5-362 and on slide 67 of the presentation given at the Sept 23, 2010 EPA/Industry greenhouse workshop. EPA typically doesn't place any up-front restrictions on EPA enforcement actions---because each enforcement action has special needs, conditions, etc, and is handled on a case-by-case basis.</p>

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11. Reporting and Recordkeeping Requirements						
11.1	Reporting and Recordkeeping Requirements - Reporting Requirements for Exempt Manufacturers	86.1801(j) and (k)	Final GHG rule.	Reporting requirements.	<p>Are Pre-MY and final MY reports required for small volume manufacturer with an exemption?</p> <p>Can this be handled as part of Certification Preview or is a VERIFY module roll out planned?</p>	<p>Exemptions from greenhouse gas requirements are discussed in the preamble of the final rule, pages 75 FR 25419-21, 75 FR 25424, and 75 FR 25483. Manufacturers qualifying for a Small Business Administration (SBA) exemption under 86.1801-12(j) are "exempt from the greenhouse gas emission standards specified in 86.1818-12 and in associated provisions in this part and in part 600 of this chapter;" ref. 86.1801-12(j). Thus, manufacturers qualifying for a SBA exemption are not required to submit pre-model year report or a GHG model year report to EPA (but may be required to submit a CAFE model year report to EPA). For SBA exemptions, manufacturers are not required to submit a declaration to EPA outlining how they qualify for the exemption, but are required to provide in the Part 1 application "the applicable intermediate and full useful life emission standards to which the test group is to be certified;" ref. 40 CFR 86.1844-01(d)(7). Note that current EPA regulations do not provide SBA-exempt manufacturers with the option to certify to GHG standards (or to earn GHG credits). However, in the light-duty 2017 and later GHG/CAFE proposed rule, EPA proposed that beginning with model year 2014, SBA-exempt manufacturers may optionally meet applicable GHG standards and thus, may earn CO2 credits under the primary GHG program; ref. 76 FR 74994, Dec 1, 2011.</p> <p>Manufacturers qualifying for a conditional exemption under 86.1801-12(k) "may request a conditional exemption from compliance with the emission standards described in 86.1818-12, paragraphs (c) through (e) and associated provisions in this part and in part 600 of this chapter;" ref. 40 CFR 86.1801-12(k). Note that this exemption does not exempt manufacturers from meeting N2O and CH4 emission standards. As outlined in paragraph 86.1801(k)(3), manufacturers requesting a conditional exemption are required to submit a declaration to EPA at least 30 days prior to the introduction of vehicles into commerce. If EPA subsequently approves the mfr's request for exemption, the mfr is not required to submit a pre-model year report or a GHG model year report to EPA (but will likely be required to submit a CAFE report to EPA).</p>
11.2	Reporting and Recordkeeping Requirements - TLAAS Reporting Requirements	86.1818-12(e); 86.1865-12(k)(7)(iii); 86.1865-12(l); 600.512-12; 600.514-12			<p>What does EPA require in the TLAAS application (other than documentation that the manufacturer's does not comply with GHG standards without using the TLAAS program)?</p>	<p>TLAAS requirements are discussed in the preamble to the final rule, pages 75 FR 25414-19. Manufacturers using TLAAS provisions are not required to submit a TLAAS declaration to EPA, however they should outline in the pre-model year report the details of how they qualify for TLAAS program, including how they comply with the provisions of 86.1818-12(e)(3) and 86.1865-12(k)(7)(iii). There is no specific "TLAAS application," however, TLAAS-related information should be included in the application for certification, the pre-model year report and the final model year report. The final model year report should provide the TLAAS standards, compliance level, qualifications, credit use, etc, ref. 86.1865-12(l)(2) and 600.512-12.</p> <p>In addition, EPA intends to incorporate TLAAS greenhouse gas data reporting requirements into the GHG/CAFE module of EPA's Verify data base system. We will schedule several meetings and testing sessions with manufacturers prior to and during the initial start-up of the new Verify GHG/CAFE module.</p>

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11.3	Reporting and Recordkeeping Requirements - Maintenance of Records	86.1865-12 (I), (1), (ii)	<p>§ 86.1865–12 (I) Maintenance of records and submittal of information relevant to compliance with fleet average CO2 standards</p> <p>(1)(ii) Manufacturers producing any passenger cars or light trucks subject to the provisions in this subpart must establish, maintain and retain all the following information in adequately organized records for each passenger car or light truck subject to this subpart:</p> <p>(A) Model year.</p> <p>(B) Applicable fleet average CO2 standard.</p> <p>(C) EPA test group.</p> <p>(D) Assembly plant.</p> <p>(E) Vehicle identification number.</p> <p>(F) Carbon-related exhaust emission standard to which the passenger car or light truck is certified.</p> <p>(G) In-use carbon-related exhaust emission standard.</p> <p>(H) Information on the point of first sale, including the purchaser, city, and state.</p>		<p>Which specific vehicles do we need to maintain records for under § 86.1865–12 (I)(1)(ii)? Is this required for all vehicles produced beginning in MY 2012 or only for IUVP tested vehicles? We believe this requirement will be very difficult and burdensome to maintain for all vehicles and we believe it should only be required for IUVP vehicles. Many other manufacturers may have the same concern in maintaining records for all vehicles. Please clarify if this requirement is only for IUVP vehicles and when this requirement takes effect.</p>	<p>These requirements are intended for all production vehicles. As outlined in the provisions of 86.1865(I)(iii), "Records may be stored in any format and on any media, as long as manufacturers can promptly send EPA organized written records in English if requested by the Administrator." These requirements are very similar to current recordkeeping requirements outlined in 86.1862-04(a).</p>
11.4	Reporting and Recordkeeping Requirements - Reporting Requirements	§86.1865 (I)			<p>According to §86.1865 (I), reporting of MYs 2009-2011 must be done the first time with the MY 2012 report, e.g. by 05/01/2013.</p> <p>According to §86.1867(e), reporting of MYs 2009-2011 must be done at latest 90 days after the end of the 2011 model year.</p> <p>According to §600.512 (a), the MY report must be submitted at latest 90 days after the end of the model year.</p> <p>Does §86.1865 (I) contain an error?</p>	<p>No. There is not an error, but there are two separate things going on. 86.1865 deals with the annual model year report, which are requirements that don't start until the close of the 2012 model year. 86.1865-12(I) is simply saying that when you submit your annual report for the first model year of the program (2012), you need to include certain elements relating to your early credits (if any). But 86.1867 requires a single summary report for all early credits that includes data from all model years 2009-2011. Note that the content from the 2009-2011 early model year report (which is due in early 2012) will be included in the final 2012 model year report - due in early 2013.</p>
12. Testing						
12.1	Testing - Analytically Derived CO2/CREE	86.1835-01(b)(1)(vi)	<p>When the following condition is met, manufacturers have to conduct mfr confirmatory test:</p> <p>"The exhaust carbon-related exhaust emissions of the test as measured in accordance with the procedures in 40 CFR Part 600 are lower than expected based on procedures approved by the Administrator."</p>		<p>Do we have to obtain EPA approval for each model's analytically derived CREE estimation procedure? By when?</p>	<p>The use of analytically derived CREE data is discussed in the preamble to the final rule, page 75 FR 25470. EPA will clarify in a future guidance letter the policy for 1) the use of analytically derived CREE and fuel economy data and 2) CREE cut points policy, ref. C1SD-09-18 and CCD-04-06. Preliminary thoughts for the cut points guidance letter are that additional CREE cutpoints will not be needed (and the fuel economy cutpoints outlined in C1SD-09-18 will be used for both fuel economy and CREE retesting).</p>
12.2	Testing - Manufacturer Confirmatory Testing	86.1835-01(b)(3)	<p>The manufacturer shall conduct a retest of the FTP or highway test if the difference between the fuel economy of the confirmatory test and the original manufacturer's test equals or exceeds three percent."</p>		<p>If the fuel economy difference between both tests are within three percent, how should we calculate official CREE?</p>	<p>For official CREE data, mfrs should use the same data as determined to be the official data for FE testing. In this case, EPA policy is outlined in the flow chart in EPA guidance letter VPCD-99-06 (page 14)---and the mfr's confirmatory test would be the "official" test for FE and CREE.</p>

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12.3	Testing - Upstream Emission Calculations	600.111-08(f) 600.113-12(m)		<p>When calculating upstream emissions for ATV credits, there is no clear calculation of EC(for EV), ECF, CREE_CD, CREE_CD_GAS, CREE_CS(for PHV), CREE_up(for FCV) in S600.111-08(f).</p> <p>When calculating PHEV upstream emissions (=CREEcd+CREEcs), the UF(utility Factor) is not applied.</p>	<p>Will EPA clarify these regulations in the future?</p> <p>Will EPA decide/modify calculations in GHG label rulemaking this summer?</p>	<p>CREE calculations for EVs, PHEVs, & fuel cell vehicles are outlined in the preamble to the final rule, pages 75 FR 25434-38. Upstream emission requirements for EVs, PHEVs, and fuel cell vehicles are outlined in the provisions of 40 CFR 600.113-12(m). For EVs and PHEVs, the provisions of 600.113-12(m)(1) and (m)(2) were revised in the 2013 FE Labeling final rule (76 FR 39478, July 6, 2011).</p>
12.4	Testing - Vehicles Equipped with Daytime Running Lights (DRLs)	EPA guidance letter CD-94-02, February 9, 1994	Apparently the issue of daytime running lights came up in the GHG rule. The current procedure is to allow DRLs to be disconnected during the test. As I recall EPA didn't incorporate any change in the final GHG rule but said it would consider this an make changes if appropriate in the future.	Background: EPA implemented the policy of not using daytime running lights (DRL) on the test based upon NHTSA's decision to ignore CAFE effect of DRL, thus providing an incentive to encourage DRLs for safety reasons.	So has EPA considered this and is any change in the works? What is the earliest model year that might be affected if you make a change?	Daytime running lights are not discussed in the final GHG rule, nor did EPA receive any comments related to EPA's daytime running light policy. At this time, EPA has no plans to revise the testing policy for vehicles equipped with daytime running lights outlined in EPA guidance letter CD-94-02, February 9, 1994. If EPA decides to revise that policy, EPA will provide adequate lead time to affected manufacturers.
12.5	Testing - N2O Measurement	86.111-94; 86.1065.275		<p>The complexity of N2O testing requirements raise significant concerns, for example:</p> <p>(i) Facilities – require significant upgrades specific to analyzers and software, and</p> <p>(ii) Lab Efficiency – collection of DF and cert data will constrain lab throughput due to potential void and maintenance issues.</p>	Will EPA accept extended use of N2O compliance statement beyond 2014 MY?	<p>N2O and N2O analyzer requirements are discussed in the preamble of the final rule (pages 75 FR 25421-24) and in the preamble to the light-duty 2017 and later GHG/CAFE proposed rule; ref. 76 FR 74993-94, Dec 1, 2011.</p> <p>In the 2017 and later light-duty GHG/CAFE proposed rule, EPA proposed to extend the use of an N2O compliance statement for two additional years (through model year 2016). Thus, as proposed, manufacturers will be required to measure N2O emissions beginning with the 2017 model year in order to demonstrate compliance with the N2O emission standard.</p>
13. Warranty						
13.1	Warranty - A/C Credit Components	Sections 207(a) and 207(i) of the CAA			Does EPA require the inclusion of A/C system into warranty parts list of 2yr/2.4k, which was proposed in the preamble of NPRM?	EPA warranty requirements for light-duty vehicles and trucks are discussed in the preamble of the final rule, pages 75 FR 25486-87. EPA warranty requirements for MDPVs are outlined in the provisions of 40 CFR 86.004-2. The defect warranty is required to cover emission-related components necessary to meet CO2 (CREE), CH4, N2O emission standards and emission-related components used to obtain optional GHG credits (including credits for reduction of air-conditioning refrigerant leakage and/or improving air conditioning system efficiency). The duration of the defect warranty depends on the applicable class of vehicles (e.g. for 2-year/24,000 miles for light-duty vehicles/trucks or 5 years/50,000 miles for MDPVs).
13.2	Warranty - A/C Credit Components	Sections 207(a) and 207(i) of the CAA		There was no modification in the section of warranty parts list, on the other hand, EPA requires the A/C warranty of 2yr/24k in the preamble.	<p>Will EPA modify the warranty parts lists?</p> <p>If so, will EPA add only the A/C system to 2yr/24k parts lists?</p> <p>Will EPA add other systems? Will EPA add any new systems to the 8yr/80,000 mile warranty requirements?</p>	A/C warranty requirements are manufacturer and model year specific (depending on the A/C systems which generate A/C leakage and efficiency credits). Therefore, EPA has no plans to modify the warranty parts list provided on the web at http://www.epa.gov/otaq/consumer/warr95fs.txt . Also, please see the EPA answer to question 13.1, above.
13.3	Warranty - A/C Credit Components	Sections 207(a) and 207(i) of the CAA		From 2012MY, AC systems generating GHG credit must provide 2yr./24K mile defect warranty.	<p>Does this mean mfrs. must offer 15yrs/150K mile warranty to such AC systems for PZEVs in California?</p> <p>Does this mean mfrs. have to offer 7 years/70K mile warranty to applicable AC systems if it is high-priced warranted parts in California?</p>	For Federal A/C warranty requirements, please see the EPA answer to question 13.1, above. For California warranty requirements, please consult with CARB.

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13.4	Warranty Requirements for GHG AECDs	86.1803-01		Devices listed as auxiliary emission control devices (AECDs) in part I application require listing of part numbers of emission related components and these AECDs in part II and also them to be covered by the defect warranty.	Can EPA comment on whether or not manufacturers must offer defect warranties on GHG AECDs, even though certification application requirements have not been changed in the GHG rule making?	Please see EPA answers to questions 1.1 and 13.1 above, for information about listing part numbers in the Part 2 application and for information about the defect warranty requirements for GHG AECDs. Warranty requirements for light-duty vehicles and trucks are discussed in the preamble of the final rule, pages 75 FR 25486-87. The defect warranty and EPA defect reporting requirements apply to AECDs and emission-related components necessary to meet CO2 (CREE), CH4, N2O emission standards and to AECDs and emission-related components used to obtain optional CO2 (CREE) credits.