

Manufacturer Tier 3 Questions and EPA Answers **12/18/2015; revised 2/25/2016**

Issue No.	Subject	Regulation Reference	Regulation	Manufacturer Questions	EPA Answers
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Purpose and Scope of this Guidance Document

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1. Certification

1.1	Tier 3 Evap and ORVR Useful Life corresponding to 120K and 150K test groups	§86.1805-17(d)	<p>§86.1805-17 Useful life. * * *</p> <p>(d) Criteria pollutants. The useful life provisions of this paragraph (d) apply for all emission standards not covered by paragraph (b) or (c) of this section. Except as specified in paragraph (f) of this section and in §§86.1811, 86.1813, and 86.1816, the useful life for LDT2, HLDT, MDPV, and HDV is 15 years or 150,000 miles. The useful life for LDV and LDT1 is 10 years or 120,000 miles. Manufacturers may optionally certify LDV and LDT1 to a useful life of 15 years or 150,000 miles, in which case the longer useful life would apply for all the standards and requirements covered by this paragraph (d).</p>	<p>For vehicles above 6K GVWR that are certified to Tier 3 evaporative emission requirements the useful life (UL) is 15 years/150K miles. This UL also applies to ORVR. For vehicles below 6K GVWR (LDV, LDT1) that are certified to Tier 3 evaporative emission requirements the UL is 10 years / 120K miles. There is no sun-set to the 10 year / 120K UL for LDV and LDT1 vehicles. This UL also applies to ORVR. The 15 year / 150K UL only applies to combinations of Tier 3 evap and exhaust. If the exhaust goes to Tier 3 but the evap family is certified to Tier 2, then the evap and ORVR UL remain 10 / 120K.</p> <p>For vehicles below 6K GVWR what happens if one test group goes to Tier 3 15 year / 150K exhaust while another test group in the same Tier 3 evap family stays at 10 year / 120K for exhaust?</p>	<p>If there is an evaporative/refueling family that corresponds to multiple exhaust test groups, some at 120K and some at 150K, manufacturers have two options. Manufacturers can apply a 150K useful life to the whole evaporative/refueling family, or manufacturers can divide the vehicles into separate evaporative/refueling families to keep the evaporative/refueling useful life at 120K for vehicles belonging to the 120K exhaust test group.</p> <p>This is consistent with the provisions of §86.1821-01(b)(1), which outline how vehicles with different evaporative family standards or family emission limits (FELs) are classified in different evaporative/refueling families. Vehicles with different useful life specifications are subject to different emission standards even if the numerical level of the standard is the same.</p>
1.2	Tier 3 Light-Duty Phase-In (Primary Program)	<p>§86.1811-17(b)(8) for large volume manufacturers;</p> <p>§86.1811-17(h) for small volume manufacturers;</p>	<p>§86.1811-17(b)(8): See applicable regulations;</p> <p>§86.1811-17(h) Small-volume manufacturers. Small-volume manufacturers may use the following Tier 3 phase-in provisions:</p> <p>(1) Instead of the fleet-average FTP standards for NMOG+NOX specified in this section, small-volume manufacturers may meet alternate fleet average standards of 0.125 g/mile through model year 2021, and 0.051 g/mile for model years 2022 through 2027. The following additional provisions apply for vehicles certified under this paragraph (h)(1): * * *</p> <p>(2) Small-volume manufacturers may delay complying with all the requirements of this section until model year 2022, and instead meet all the requirements that apply to Tier 2 vehicles under § 86.1811-10 for 2021 and earlier model years. * * *</p>	<p>For light-duty vehicles certified under the primary (declining fleet average NMOG + NOx) program, please confirm that starting with 2017 model year, only Tier 3 FTP bins should be selected for all Federally certified vehicles.</p>	<p>The Tier 3 light-duty primary (declining fleet average NMOG + NOx) phase-in requirements are discussed in the preamble of the final rule, 79 FR 23451-457 and 79 FR 23478-479. Tier 3 small volume manufacturer provisions are discussed at 79 FR 23534-536.</p> <p>Large volume manufacturers: For the Tier 3 light-duty primary (declining fleet average NMOG + NOx) phase-in outlined in §86.1811-17(b)(8), all federally certified LDV (passenger cars) and LLDT must be certified to Tier 3 FTP bins in 2017 and later model years. Transitional FTP bins (85 and 110) may be used through the 2019 model year. All federally certified HLDTs and MDPVs must be certified to Tier 3 FTP bins in 2018 and later model years. For model year 2017, do not include HLDTs or MDPVs in the FTP and SFTP fleet averages. Note that for FTP fleet average calculations for LDV and LLDTs (which begin in 2017 model year), the provisions of §86.1811-17(b)(8)(i) require separate Tier 3 fleet average calculations for LDV/LDT1 and LDT2/HLDT/MDPV vehicles.</p> <p>Small Volume Manufacturers (SVMs): SVMs who choose to certify light-duty vehicles to the alternate fleet average FTP standards under the provisions of §86.1811-17(h)(1) should certify 2017-2027 model year vehicles using the same approach for Tier 3 FTP bins as outlined above for large volume manufacturers. Note that SVMs choosing the §86.1811-17(h)(1) option must meet Tier 3 SFTP and PM requirements according to the same phase-in schedule as large volume manufacturers.</p> <p>SVMs who choose the Tier 3 phase-in provisions of §86.1811-17(h)(2) may certify 2017-2021 model year light-duty vehicles to Tier 2 FTP and SFTP exhaust emission requirements (and certify 2022 and later model year vehicles to Tier 3 exhaust emission requirements). SVMs choosing the §86.1811-17(h)(2) option are not allowed to switch to the §86.1811-17(h)(1) option for 2022-2027 model years.</p> <p>SVMs may also choose to certify using large volume manufacturer provisions.</p>

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1.3	California-only Certification	§86.1811-17 §86.1860-17(b)	<p>§86.1811-17 Exhaust emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles. * * *</p> <p>(b) Tier 3 exhaust emission standards. Exhaust emissions may not exceed the Tier 3 exhaust emission standards, as follows: * * *</p> <p>(7) The Tier 3 PM standards phase in over several years. The following provisions describe the primary approach for phasing in the Tier 3 PM standards: (i) You must meet the FTP and the US06 PM standards with 20, 20, 40, 70, and 100 percent of your projected nationwide sales of all vehicles subject to this section.* * *</p> <p>§86.1860-17 How to comply with the Tier 3 fleet-average standards. * * *</p> <p>(b) Calculate your fleet-average value for each model year for all vehicle models subject to a separate fleet average standard using the following equation, rounded to the nearest 0.001 g/mile for NMOG+NOX emissions and the nearest 0.001 g/test for evaporative emissions: * * *</p> <p>Where: <i>i</i> = A counter associated with each separate Tier 3 test group or evaporative family. <i>b</i> = The number of separate Tier 3 test groups or evaporative families... <i>N_i</i> = The actual nationwide sales for the model year for test group or evaporative family <i>i</i>. * * * <i>FEL_i</i> = The FEL selected for the test group or evaporative family <i>i</i>. * * * <i>N_{total}</i> = The actual nationwide sales for the model year for all your Tier 3 vehicles from the averaging set,* * * [Emphasis added.] * * *</p>	<p>A. Is it possible to obtain California-only certification after 2017 model year?</p> <p>B. If so, can vehicles covered by a California-only certificate be included in the Tier 3 Fleet Average Standard and Phase-in provisions?</p>	<p>A. Yes, it is possible to obtain California-only certificates after 2017 model year.</p> <p>B. No, vehicles covered by a California-only certificate (including California/Section 177 State vehicles) are not included in Tier 3 fleet average or percent phase-in calculations. As discussed in the preamble of the Tier 3 final rule (79 FR 23481, April 28, 2014), Tier 3 fleet average and percent phase-in standards compliance is based on annual nationwide sales of vehicles "as they become subject to the Tier 3 provisions, either the declining fleet-average NMOG+NOx curves or the percent phase-in PM standards."</p> <p>This approach of basing compliance on nationwide sales of vehicles covered by an EPA certificate is specified in §86.1860-17(b), which calculates a manufacturer's Tier 3 fleet average based on Tier 3 test groups, evaporative families, and vehicles, and §86.1811-17(b)(7), which provides that compliance with Tier 3 PM percent phase-in requirements is based on nationwide sales of all "vehicles subject to this section," neither of which includes vehicles covered by a California-only certificate.</p>
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2. Durability Requirements

2.1	Durability - PM DFs for Gasoline Vehicles	§86.1823-08; §86.1823-08(f);	See applicable regulations.	The Tier 3 rule and the provisions of §86.1823-08 do not seem to discuss requirements for determining a deterioration factor (DFs) for certification of gasoline vehicles to PM standards. But presumably a DF is required. So is there any guidance for how to determine PM DFs for gasoline vehicles which might <u>not</u> be certified based upon whole vehicle useful life mileage testing?	<p>Durability requirements for exhaust emissions of light-duty and certain heavy-duty class 2b/3 vehicles are provided in §86.1823-08. Deterioration factor (DF) requirements are provided in §86.1823-08(f).</p> <p>The Tier 3 rule and preamble do not specifically discuss the determination of PM deterioration factors for gasoline vehicles. This was not an oversight. The existing provisions of §86.1823-08 require a DF (or manufacturers may use aged components) to allow certification to the full useful life PM emission standards.</p> <ul style="list-style-type: none"> • EPA may publish a certification guidance letter at a future date that addresses the criteria and procedures that should be followed when establishing a PM DF or using aged components for gasoline vehicles, but prior to such guidance, the manufacturer is expected under §86.1823-08(h) to provide a PM DF (or use appropriately aged components) based upon relevant PM data and using good engineering judgment. • If a manufacturer chooses to use a PM DF (instead of aged components), this goes beyond simply making a statement of compliance as the manufacturer must provide an actual numerical PM DF in the application for certification along with the rationale for deriving that number. • This situation applies mainly to gasoline vehicles which currently have approved bench aging approaches for determining non-PM DFs. Such vehicles are not required to run full mileage accumulation.
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2.2	Durability - Assigned DFs	<p>§86.1826-01; §86.1838-01(c)(1);</p> <p>EPA Guidance Letter CD-12-07 (Revised), March 30, 2012</p> <p>Preamble to Tier 3 final rule (79 FR 23535, April 28, 2014);</p>	<p>§86.1826-01; §86.1838-01(c)(1) - See applicable regulations</p> <p>See EPA guidance letter CD-12-07;</p> <p>Tier 3 preamble language (79 FR 23535) reads in part:</p> <p>2. Assigned Deterioration Factors</p> <p>* * *Given that SVMs will be allowed to use the revised implementation schedule described above, starting in MY 2017, it becomes necessary to consider assigned deterioration factors in stages. Because there may not be a sufficient base of accumulated durability data on Tier 3 vehicles by MY 2017, we expect that the current set of assigned factors based on Tier 2 vehicles may continue in place for some time, noting that the MY 2017– 2021 SVM fleet average of 125 mg/mi is not too much different from the average of today's Tier 2 vehicle emissions. By MY 2022, when the SVM NMOG+NO_x fleet average standard drops to 51 mg/mile, we expect to have new assigned factors available. * * *</p>	<p>When does EPA intend to provide the Tier 3 assigned DF guidance letter? In the interim until EPA provides industry guidance, what assigned DFs should manufacturers use for vehicles certified to Tier 3 exhaust and evaporative emission standards?</p>	<p>Assigned deterioration factor (DF) requirements are discussed in preamble of the final rule (79 FR 23535).</p> <p>For Tier 3 assigned DFs, manufacturers can use EPA guidance letter CD-12-07, March 30, 2012 as a basis to derive Tier 3 DFs until EPA obtains enough Tier 3 data to issue a new guidance letter with Tier 3 assigned DFs. Manufacturers can derive Tier 3 assigned DFs for exhaust and evaporative emissions from the Tier 2 assigned DFs provided in CD-12-07 (e.g., derive Tier 3 DFs from Tier 2 Bins 2-5 exhaust DFs and Federal LEV II evaporative DFs). Manufacturers should obtain prior EPA approval to use a manufacturer-determined Tier 3 assigned DF.</p> <p>Notes and Recommendations:</p> <ul style="list-style-type: none"> • To determine NMOG + NO_x DFs, determine a separate Tier 3 NMOG DF and a separate Tier 3 NO_x DF from the appropriate Tier 2 150K NMOG and NO_x additive DFs provided in CD-12-07. Then apply the Tier 3 NMOG additive DF to the NMOG test results. Similarly apply the Tier 3 NO_x additive DF to the NO_x test results. Then calculate the 150K (NMOG + NO_x) certification level by adding those two products. • NMOG test results may be determined for Tier 3 and LEV-III E10 test fuel by multiplying the NMHC test value (determined by the FID) by 1.10 for FTP tests and by 1.03 for highway, US06 and SC03 tests, ref. §1066.635. • If the useful life for the Tier 3 standard is 150K, extrapolate the Tier 2 DFs from 120K to 150K using the equation in CD-12-07 Table 1, footnote [2]. • For Tier 3 Bin 20 assigned DFs: First, derive Tier 3 assigned DFs for Tier 3 Bin 30 from Tier 2 Bin 2 DFs. Then use the Tier 3 Bin 30 assigned DFs (which you just determined) for the Tier 3 Bin 20 vehicles. • For Tier 3 evaporative emissions, DFs are required for Hot Soak plus Diurnal, Running Loss and ORVR tests (but not required for Bleed, Leak and Spitback tests).
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3. Early Certification and Early Credits

3.1	Early Tier 3 Certification & Early Credits	§86.1811-17(b)(11)	<p>§86.1811-17(b)(11) You may certify vehicles to the Tier 3 standards starting in model year 2015. To do this, you may either sell all your LEV III vehicle models nationwide, or you may certify a subset of your fleet to alternate fleet-average emission standards as follows:</p> <p>§86.1811-17(b)(11) (i) through (ix) - See applicable regulations.</p>	<p>Since most of our vehicles are ULEVs and most (if not all) of our SULEV/PZEV vehicles are sold in CA + 177 states, per §86.1811- 17(b)(11), please confirm that we can select certain bins for Early Tier 3 certification (2015-2016MY) even though they are above the standard.</p>	<p>Early Tier 3 exhaust emission certification requirements for light-duty vehicles are discussed in regulations at §86.1811-17(b)(11) as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015) and in the preamble of the Tier 3 final rule (79 FR 23474-475, April 28, 2014).</p> <p>Under §86.1811-17(b)(11), manufacturers can either 1) sell LEV III vehicle models nationwide or 2) certify a subset of their vehicle fleets as Early Tier 3-compliant vehicles (in one or more test groups) to the alternate fleet average FTP and SFTP standards provided in §86.1811-17(b)(11). For this second approach, some Early Tier 3 vehicle test groups may be certified to a Tier 3 FTP or SFTP standard which is above the alternate Tier 3 fleet average standards provided in §86.1811-17(b)(11)(i), (ii) and (iii), provided the fleet average of all Early Tier 3 vehicles comply with the applicable alternate fleet average standards provided in §86.1811-17(b)(11)(i), (ii) and (iii).</p> <p>Note: The provisions of §86.1811-17(b)(11)(ix) allow Early Tier 3 vehicles to generate Tier 3 credits separately as outlined in the provisions of §86.1811-17(b)(11)(i) through (viii) or to combine Early Tier 3 vehicles with qualifying Tier 2 vehicles and generate early Tier 3 credits under the provisions of §86.1811-17(b)(10).</p> <p>Note: A Tier 3 early credit calculator spreadsheet for calculating credits under the provisions of §86.1811-17(b)(10) was provided to manufacturers on August 5, 2015 and is available on the EPA Tier 3 website at http://www3.epa.gov/otaq/tier3.htm.</p>
3.2	Early Credits	§86.1811-17(b)(10) and §86.1811-17(b)(11)(viii) as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015)	<p>§86.1811-17(b)(10) "You may not use credits generated from Tier 2 vehicles for demonstrating compliance with the Tier 3 standards except as specified in this paragraph (b)(10). You may generate early credits with U.S. sales of Tier 2 vehicles in the two model years before the Tier 3 standards start to apply for a given vehicle model. * * *Calculate early Tier 3 emission credits as described in §86.1861* * *You may use these early credits interchangeably for vehicles certified based on a useful life of either 120,000 or 150,000 miles. * * **"</p> <p>§86.1811-17(b)(11) You may certify vehicles to the Tier 3 standards starting in model year 2015. To do this, you may either sell all your LEV III vehicle models nationwide, or you may certify a subset of your fleet to alternate fleet-average emission standards as follows:</p> <p>(viii) The interim provisions described in paragraph (b)(8)(iii) of this section apply for vehicles certified under this paragraph (b)(11), except that credits generated under this paragraph (b)(11) may be used interchangeably for vehicles certified based on a useful life of either 120,000 or 150,000 miles. * * *</p>	<p>Can early credits earned for pre-2017 vehicles be applied to either the future Tier 3 150K or 120K fleets even though the useful lives of these pre-2017 vehicles might be certified to either 120 or 150K?</p>	<p>The provisions of §86.1811-17(b)(10) and (11), as amended in the Tier 3 DFR (80 FR 9078, February 19, 2015) clarify that early credits earned from combined Tier 2 and Early Tier 3 vehicle fleets can be applied "interchangeably" regardless of whether the vehicles were certified based on a useful life of 120K or 150K miles.</p> <p>Note: A Tier 3 early credit calculator spreadsheet for calculating credits under the provisions of §86.1811-17(b)(10) was provided to manufacturers on August 5, 2015 and is available on the EPA Tier 3 website at http://www3.epa.gov/otaq/tier3.htm.</p>

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3.3	Early LDV Tier 3 Certification & Early Credits	§86.1811-17(b)(6) §86.1811-17(b)(11)	<p>§86.1811-17(b)(6) The full Tier 3 program includes new emission standards for NMOG+NOX, PM, CO, and formaldehyde; it also includes measurement with a new test fuel and a longer useful life (for some vehicles). Vehicles meeting all these requirements are considered Final Tier 3 vehicles. Vehicles that do not meet all the Tier 3 requirements are considered Interim Tier 3 vehicles. Paragraphs (b)(7) through (13) of this section describe how to comply with standards during a phase-in period.</p> <p>§86.1811-17(b)(11) You may certify vehicles to the Tier 3 standards starting in model year 2015. To do this, you may either sell all your LEV III vehicle models nationwide, or you may certify a subset of your fleet to alternate fleet-average emission standards as follows:</p> <p>§86.1811-17(b)(11) (i) through (ix) - See applicable regulations;</p>	<p>Can manufacturers sell light-duty vehicles certified to either "interim" or "final" Tier 3 requirements in model years 2015, 2016 and 2017 (where model year 2015 and 2016 sales would apply to LDV/LLDT vehicle classes and model year 2016 and 2017 sales would apply to HLDT and MDPV vehicle classes)?</p>	<p>Early Tier 3 exhaust emission certification requirements for light-duty vehicles are discussed in regulations at §86.1811-17(b)(11) (as revised in the Tier 3 DFR 80 FR 9078, February 19, 2015) and in the preamble of the Tier 3 final rule, pages 79 FR 23474-475, April 28, 2014.</p> <p>Yes, under §86.1811-17(b)(11) which outline alternate fleet average FTP and SFTP standards and other requirements for certification of early Tier 3 vehicles, manufacturers may certify light-duty vehicles certified to "interim" or "final" Tier 3 requirements in model years 2015, 2016 and 2017 (as applicable for the class of vehicle), however they would be subject to the alternate Tier 3 fleet average and other requirements as provided in §86.1811-17(b)(11). Manufacturers may only sell vehicles which are certified to any Tier 3 bin (including vehicles meeting "interim" and "final" Tier 3 requirements) provided the manufacturer's full fleet of Early Tier 3 vehicles sold in model year 2015, 2016 and 2017 (as applicable for the class of vehicle) meets one of the two fleet conditions for the applicable model year(s); either you sell all of your LEV III vehicles nationwide, or if you do not sell all of your LEV III vehicles nationwide your Early Tier 3 partial vehicle fleet complies with the alternate FTP and SFTP fleet average standards and other requirements provided in §86.1811-17(b)(11).</p> <p>(1) Under the Early Tier 3 vehicle certification provision you would have to meet all of the Tier 3 exhaust emission certification requirements that would apply in MY2017 for "interim" and "final" Tier 3 LDV/LLDTs (MY2018 for "interim" and "final" Tier 3 HLDTs and MDPVs).</p> <p>(2) There is nothing that prevents you from voluntarily meeting all "final" Tier 3 requirements for bins that are allowed to meet "interim" Tier 3 requirements. However any such vehicle voluntarily certified early to all "final" Tier 3 requirements would have to be included under either the Early Tier 3 partial fleet average option or the option to sell all of your LEV III vehicles nationwide. You will not receive any extra credit or relief from Tier 3 fleet average requirements simply because you voluntarily certified vehicles to final Tier 3 requirements for an earlier model year than required.</p>
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3.4	Early Tier 3 Certification & Early Credits	§86.1811-17(b)(11)	<p>§86.1811-17(b)(11) You may certify vehicles to the Tier 3 standards starting in model year 2015. To do this, you may either sell all your LEV III vehicle models nationwide, or you may certify a subset of your fleet to alternate fleet-average emission standards as follows:</p> <p>§86.1811-17(b)(11) (i) through (ix) - See applicable regulations;</p>	<p>What are the exhaust emission standards and compliance requirements that apply for light-duty vehicles certified as Early Tier 3?</p>	<p>See Question 3.1 for the regulatory background (preamble and regulation) cites.</p> <p>See Question 3.3 for previous guidance regarding certification of Early Tier 3-compliant vehicles under the provisions of §86.1811-17(b)(11).</p> <p>If a manufacturer chooses to sell LEV III vehicles nationwide in model years 2015, 2016 or 2017 (as applicable for the class of vehicle) then Early Tier 3 vehicles must comply with the applicable California LEV III FTP and SFTP fleet average standards for the applicable model year(s). If not, then the manufacturer's Early Tier 3 partial vehicle fleet must comply with the alternate MY2015-2017 FTP and SFTP fleet average standards provided in §86.1811-17(b)(11) for the applicable model year(s) as outlined in Question 3.3. Additionally, all Tier 3 compliance requirements that would apply in MY 2017 (or MY2018 for HLDTs and MDPVs) would apply to all LDV/LLDTs certified as Early Tier 3 as follows:</p> <p>(1) Any Tier 3 bin that would be available including both interim and final bins, including transitional Bin 85 and Bin 110 (i.e., the NMOG+NOx equivalents to Tier 2 Bins 3 & 4).</p> <p>(2) The useful life and test fuel requirements that would apply to the respective bins are applicable.</p> <p>(3) Tier 2 PM FTP, SFTP, and testing requirements would apply since these Early Tier 3 vehicles would generally not be phased in yet under the Tier 3 PM percentage phase-in which begins in MY2017.</p> <p>(4) Tier 3 high altitude requirements would apply.</p> <p>(5) Tier 3 cold temperature CO and NMHC requirements would apply. The standards and useful life requirements for these do not change from Tier 2 to Tier 3. Tier 2 E0 test fuel is allowed by the provisions of 86.1811-17(b)(11)(vi).</p>
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4. Evaporative Requirements - Also see Question 14.2

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4.1	Evaporative Phase-In Requirements - Tier 2 vehicles	§86.1813-17(a)(5); §86.1813-17(a)(6); §86.1813-17(g);	<p>§86.1813-17 Evaporative and refueling emission standards. * * *</p> <p>(a)(5) The Tier 3 evaporative emission standards start to phase in with model year 2017 for vehicles at or below 6,000 pounds GVWR and with model year 2018 for vehicles above 6,000 pounds GVWR. Table 3 of this section specifies the minimum percentage of each manufacturer's sales in each model year that must be certified to the Tier 3 evaporative emission standards* * *</p> <p>* Manufacturers may meet this requirement using the additional alternative phase-in provisions in paragraph (g) of this section. Vehicles from the identified model years not certified to the Tier 3 evaporative emission standards continue to be subject to the evaporative emission standards specified in § 86.1811-09(e) or § 86.1816-08(d), including the useful life provisions of § 86.1805-12. * * * See paragraph (g) of this section for additional provisions that apply for model year 2017 and the rest of the phase-in. * * *</p> <p>(6) For model year 2017, exclude vehicle sales from California and section 177 states from the calculation to demonstrate compliance with the phase-in schedule in paragraph (a)(5) or (g) of this section, and from the credit calculation in § 86.1860.</p> <p>§86.1813-17(g) - See applicable regulations.</p>	Can California phase 2 fuel test results be carried over for Tier 3 vehicles for evaporative certification purposes?	<p>Tier 3 evaporative phase-in requirements are discussed in the preamble of the Tier 3 final rule (79 FR 23497-500, including Table IV-22) and the provisions of §86.1813-17(a)(5), (a)(6) and (g).</p> <p>No, Tier 2 and LEV-II evaporative data cannot be carried over and used to demonstrate compliance with Tier 3 evaporative certification requirements because of the differences in test fuel properties (including the ethanol content of the test fuel).</p> <p>However, the provisions of §86.1813-17(a)(5) require vehicles not yet included in the Tier 3 evaporative phase-in percentage to be certified to Tier 2 evaporative requirements. Hence, carryover Tier 2 evaporative certification data may be used to demonstrate compliance with Tier 2 certification requirements in 2017-2021 model years (including Tier 2 vehicles which were tested on California Phase 2 test fuel).</p>
4.2	Evaporative Compliance using California Option 1 & Option 2 data	§86.113-15(a)(2)(iii)(A); §86.113-15(a)(2)(iii)(B); §86.113-15(a)(2)(iii)(C); §86.1813-17(g)(3);	<p>§86.113-15(a)(2)(iii)(A) -Regulations are provided in question 14.2.</p> <p>§86.113-15(a)(2)(iii)(B) If you certify vehicles to LEV III standards with California Phase 3 gasoline (E10), you may use that collection of data to certify to the Tier 3 evaporative emission standards. Through model year 2019, we will use this same fuel to measure diurnal, hot soak, running loss, SHED rig, and canister bleed emissions (as appropriate) at low-altitude conditions; starting in model year 2020, we may use either California Phase 3 gasoline (E10) or the gasoline (E10) test fuel specified in this paragraph (a) for our testing with such vehicles. For refueling, spitback, high-altitude, and leak testing, you must use the gasoline (E10) test fuel specified in this paragraph (a), except that you may instead use the gasoline (E0) test fuel specified in § 86.113-04(a) for model year 2015 and 2016; we will use your selected fuel for our testing. Note that you may no longer certify vehicles to the Tier 3 standards based on California's rig-testing procedures after model year 2021, as described in §86.1813-17(g).</p> <p>§86.113-15(a)(2)(iii)(C) For evaporative emission testing with California test fuels, perform tests based on the test temperatures specified by the California Air Resources Board.</p> <p>§86.1813-17(g)(3) - Regulations are provided in question 5.2.</p>	Please confirm that through MY2021, manufacturers can certify vehicles to the LEV III option 1 or option 2 evaporative procedures per §86.1813-17(g)(3).	<p>Tier 3 evaporative emission requirements for vehicles meeting California LEV III Option 1 and Option 2 standards are discussed in the preamble of the Tier 3 final rule (79 FR 23494-499, April 28, 2014) and in the provisions of §86.113-15(a)(2)(iii)(A) and §86.1813-17(g)(3).</p> <p>This question can best be answered by studying Table IV-22 (page 79 FR 23497) and Table IV-23 (page 79 FR 23499) of the preamble of the Tier 3 final rule. Those tables outline several scenarios in which California LEV III Option 1 and Option 2 <u>hot soak + diurnal and running loss</u> evaporative data may be used to demonstrate compliance with interim and final Tier 3 evaporative requirements. For example, EPA will accept data used to demonstrate compliance with California Option 1 and Option 2 certification programs to demonstrate compliance with Tier 3 evaporative requirements, as follows:</p> <ul style="list-style-type: none"> EPA will accept carryover SULEV/PZEV Option 1 evaporative (hot soak + diurnal) and running loss data through the 2019 model year (tested on Phase 2 E0 test fuel), provided the data was originally used for certification in 2015 and/or 2016 model years; ref. §86.113-15(a)(2)(iii)(A). EPA will accept LEV-III Option 1 evaporative (hot soak + diurnal) and running loss data (tested on LEV III E10 test fuel) for 2015-2021 model years; ref. §86.1813-17(g)(3). EPA will accept LEV-III Option 2 evaporative (hot soak + diurnal) and running loss data (tested on LEV-III E10 test fuel) for 2015 and later model years (including 2022 and later model years); ref. §86.113-15(a)(2)(iii)(B), §86.113-15(a)(2)(iii)(C) and §86.1813-17. <p>Also see Question 5.2.</p>

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4.3	Evaporative emission phase-in options	§86.1813–17(a)(5), §86.1813–17(g)(2)(i) §86.1813–17(g)(2)(ii)	See applicable regulations.	<p>For LDVs and LLDTs, we would like to confirm the three phase-in options for 2017 model year compliance to the Tier 3 <u>evaporative</u> emission standards listed as follows:</p> <ol style="list-style-type: none"> 1. Meet the phase in requirements as stated in §86.1813–17(a)(5) which is forty percent for MY2017. 2. Offer for sale PZEV certified vehicles in all fifty states in MY2017, as stated in §86.1813–17(g)(2)(i), with the restriction that identical models currently sold as ULEV/non-PZEV would not be able to be offered. As further explanation we currently offer identical vehicles models as SULEV/PZEV in CA +177 states and a ULEV model available in other states. If we read this correctly, the current identical ULEV vehicle models would not be able to be offered in fifty states if this option was chosen for MY2017. 3. Meet the phase in requirements as stated in §86.1813–17(g)(2)(ii), which is a phase in 20% of vehicles to the Tier 3 evaporative standard and 20% to the leak standard. 	<p>Your understanding of the evaporative phase-in provisions of §86.1813–17(a)(5), §86.1813–17(g)(2)(i) and §86.1813–17(g)(2)(ii) for the 2017 model year is correct.</p> <p>For more information, Tier 3 LDV evaporative phase-in requirements are discussed in the preamble of the final rule (79 FR 23497-500, including Table IV-22).</p>
4.4	Test fuel - for use on running loss fuel tank temperature profile (FTTP)	§86.113-15(a)(2)(iii)(A), (B), and (C); §86.129-94(d); §86.134-96; §86.1851-01	<p>§86.113–15 Fuel specifications. * * *</p> <p>(a)(2) You may use California test fuels to demonstrate compliance with Tier 3 emission standards as follows: * * *</p> <p>(iii) For vehicles certified for 50-state sale, you may instead use California test fuel for evaporative emission testing as follows: * * *</p> <p>(C) For evaporative emission testing with California test fuels, perform tests based on the test temperatures specified by the California Air Resources Board.</p> <p>§86.129-94(d) Fuel Temperature Profile - See applicable regulations.</p> <p>§86.134-96 Running Loss Test - See applicable regulations.</p> <p>§86.1851-01 Application of good engineering judgment to manufacturers' decisions – See applicable regulations.</p>	<p>For carryover vehicles, can manufacturers use good engineering judgment to determine running loss fuel tank temperature profiles (FTTPs) for carryover Tier 3 vehicles? For example, can a manufacturer use good engineering judgment to determine that FTTP data procured on Tier 2 vehicles utilizing E0 test fuel can be carried over to Tier 3 vehicles utilizing E10 certification fuel?</p>	<p>Yes, for Federal Tier 3 evaporative requirements, manufacturers may use good engineering judgment (as provided in the provisions of §86.1851-01) to determine FTTPs for Tier 3 vehicles (without obtaining prior EPA approval).</p> <p>For FTTP running loss requirements for vehicles meeting California LEV-III evaporative requirements, manufacturers should contact a CARB staff member.</p>

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4.5	High Altitude - Evaporative Requirements	§86.1810-17(f); §86-1813-17(a)(2)(iii);	<p>§86.1810-17 General requirements. The following provisions apply to all vehicles certified under this subpart: * * *</p> <p>(f) Emission standards apply at low altitude conditions and at high altitude conditions, except as noted in this subpart.</p> <p>§86-1813-17(a)(2)(iii) reads in part: Hydrocarbon emissions must not exceed 0.020 g for LDV and LDT and 0.030 g for HDV when tested using the Bleed Emission Test Procedure adopted by the California Air Resources Board as part of the LEV III program. This procedure quantifies diurnal emissions without measuring hot soak emissions. <u>The standards in this paragraph (a)(2)(iii) do not apply for testing at high-altitude conditions.</u> [Emphasis added]</p> <p>Note: The provisions of 86.1813-17(a)(2)(ii)(B) make it clear that diurnal plus hot soak standards apply to light-duty and heavy-duty vehicles at high altitude. The provisions of §86.1813-17(a)(3) (running losses for LDV/T, MDPV, HDV), §86.1813-17(a)(4) (leak standards for LDV/T, MDPV, complete HDV, ref 79 FR 23518), §86.1813-17(b) (refueling for LDV/T, MDPV, complete HDV), and §86.1813-17(c) (spitback refueling for LDV/T, MDPV, HDV) standards do not contain exemptions from compliance under high altitude conditions. Thus, based on the provisions of §86.1810-17(f), these standards apply to light-duty and applicable heavy-duty vehicles at high altitude conditions.</p>	For carryover of LEV II PZEV evaporative emission data, do Tier 3 requirements require compliance at high altitude for all tests including diurnal+hot soak, running loss, ORVR and spit-back?	<p>High altitude evaporative requirements (including evaporative requirements for carryover PZEV vehicles) are discussed in the preamble of the final rule (79 FR 23495-496) and in the provisions of §86.1810-17(f), §86.1813-17 and §86.1813-17(a)(2)(ii)(B).</p> <p>Based on the provisions of §86.1810-17(f), §86-1813-17 and §86-1813-17(a)(2)(iii), the following evaporative emission standards apply at high altitude to all vehicles counted in the Tier 3 evaporative program:</p> <ul style="list-style-type: none"> • Special high altitude diurnal plus hot soak standards apply to all Tier 3 certified vehicles including the special case LEVII PZEVs and LEV III certified vehicles. • The canister bleed test standard does not apply at high altitude. • The new leak test applies regardless of altitude although the provisions of §86.1829-15(e)(4) allow manufacturers to provide a statement in the application that vehicles comply with the leak standard in lieu of providing high or low altitude test data. • The running loss, refueling, and spitback standards all apply regardless of altitude to all Tier 3 certified vehicles including the special case LEV II PZEVs and LEV III certified vehicles.
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5. Fleet Average Requirements

5.1	Exhaust Fleet Average Standards - LDV interim full useful life	§86.1811-17(b)(8)(iii)(A) as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015)	<p>§86.1811-17(b)(8)(iii) Interim provisions.</p> <p>(A) For vehicles certified to bins higher than Bin 70 under this section through model year 2019, the Tier 2 useful life period applies as specified in § 86.1805–12 for all criteria pollutants other than PM. However, LDV and LDT1 test groups certified to bin standards above Bin 70 through model year 2019 may be included in the same averaging set with vehicles meeting standards over a 150,000 mile useful life, notwithstanding the provisions of §86.1861–17(b)(1)(iii). Any such vehicles you include in the averaging set for 150,000 mile useful life are also subject to the fleet-average NMOG+NO_x standard specified for 150,000 mile useful life; similarly, any such vehicles you include in the averaging set for 120,000 mile useful life are also subject to the fleet-average NMOG+NO_x standard specified for 120,000 mile useful life.</p>	For the primary (declining fleet average) option outlined in the provisions of 86.1811-17(b)(8), can vehicles certified to a 120K useful life under the flexibilities provided during the interim Tier 3 provisions (which allow certification of vehicles in bins above bin70 to be certified to the 120k useful life) be included in the same fleet average as non-interim Tier 3 vehicles (e.g., vehicles in bin70 and below) certified to a 150K useful life?	<p>Yes. As clarified in the Tier 3 DFR (80 FR 9078, February 19, 2015), revised §86.1811-17(b)(8)(iii)(A) allows the manufacturer through MY2019 to choose either to include vehicles certified above bin 70 and subject to 120K useful life in the same fleet averaging set as 150K certified vehicles or to include them in the separate 120K fleet averaging set (where the 120K vehicle fleet would at minimum be required to contain all LDV and LDT1 certified to 120K useful life under the optional 120K declining fleet average standard). This option does not apply to LDT2 and HLDT test groups because Tier 3 regulations do not contain an option to certify such vehicles to the 120K NMOG+NO_x fleet average standard.</p> <p>Background on Tier 3 useful life and fleet averaging requirements is discussed in the preamble of the final rule (79 FR 23475-76 and 79 FR 23480-81).</p>
5.2	Evaporative Fleet Average Standards - SULEV/PZEV carryover vehicles	§86.113-15(a)(2)(iii)(A); §86.1813-17(g)(3); §86.1861-17(b)(1)(iv) as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015).	<p>§86.113-15(a)(2)(iii)(A) – See Q 6.4 below.</p> <p>§86.1813-17(g) Alternative phase-in options for Tier 3 evaporative emission standards. You may use any of the following alternative methods to transition to the Tier 3 evaporative emission standards: * * *</p> <p>(3) If you certify model year 2021 or earlier vehicles to the LEV III evaporative emission standards in California, you may certify those as Tier 3 vehicles that count toward meeting the phase-in requirements of this section. Such vehicles must still be certified to the high-altitude standards in paragraph (a)(2) of this section and the leak standard specified in paragraph (a)(4) of this section. You may not certify vehicles under this paragraph (g)(3) after model year 2021. Vehicles meeting the LEV III standards may also generate allowances under paragraph (g)(1) of this section; however, these vehicles may generate or use emission credits under this subpart only if they are not used to generate allowances and if they are certified using the Option 2 procedures under the LEV III program (including the bleed emission test). Vehicles may be certified under this paragraph (g)(3) based on the rig test ("Option 1") if they are certified to LEV III standards based on the rig test before model year 2017; this certification option applies through model year 2021. Include these Option 1 vehicles in the calculation of fleet average emissions by using the appropriate Tier 3 emission standard as the FEL. Note that the rig test is considered a diurnal test with respect to the provisions to account for ethanol emissions as described in paragraph (a)(1)(iv) of this section.</p> <p>§86.1861–17 How do the NMOG+NO_x and evaporative emission credit programs work? * * *</p> <p>(b)(1)(iv) The following separate averaging sets apply for evaporative emission standards: (A) LDV and LDT1 together represent a single averaging set. (B) LDT2 represents a single averaging set. (C) HLDT represents a single averaging set. (D) HDV represents a single averaging set.</p>	For LDV and LDT1 vehicles, when the LEVII PZEV carryover option is used in the Tier 3 program, are such vehicles counted in the evaporative fleet average with a 300 mg/test value? We ask this question because in the California LEV II program, such vehicles would have been certified to a 350 mg/test CARB Option 1 evaporative standard (for hot soak plus diurnal emissions).	<p>Evaporative fleet averaging requirements for California PZEV carryover vehicles meeting CARB LEV-II and LEV-III Option 1 evaporative standards are discussed in the preamble of the Tier 3 final rule (79 FR 23477 and 79 FR 23493-495, April 28, 2014) and in the regulations in the provisions of §86.1813-17(g)(3). Some excerpts from the preamble discussion on page 79 FR 23495 include:</p> <ul style="list-style-type: none"> • "EPA will allow compliance with the CARB Option 1 standards as an acceptable interim alternative to compliance with the Tier 3 evaporative emission standards if the model is certified by CARB to LEV III requirements before the 2017 MY." • "..... vehicles certified under this provision will count toward the phase-in percentage requirements and could earn allowances as discussed below, but the vehicles will not be eligible to earn or use credits for the evaporative emissions averaging program." <p>Yes – under §86.1813-17(g)(3) and consistent with the above discussion, carryover LEV II PZEV LDV and LDT1 vehicles meeting CARB Option 1 evaporative standards are required to be included in the Tier 3 evaporative fleet average at the standard for the category, 300 mg/test.</p> <p>In addition, since these LEV II PZEVs were originally certified in California at a hot soak plus diurnal standard of 350 mg/test, this 350 mg/test level would continue as the certification FEL and the in-use enforcement level for these vehicles (even though they are included in the fleet averaging calculation at 300 mg/test).</p> <p>Tier 3 evaporative fleet average calculations should be performed similarly for PZEV carryover vehicles which are included in the LDT2, HLDT and HDV averaging sets.</p> <p>Note that the provisions of §86.1860-17(c)(4) regarding calculation of Tier 3 <u>evaporative</u> fleet average emission values reads as follows: "For model year 2017, do not include vehicle sales in California or the section 177 states for calculating the fleet average value for evaporative emissions."</p>

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6. Fuel Requirements - Also see Question 4.1

6.1	Tier 3 Exhaust Test Fuel	§86.113-15; §86.113-04(a); preamble to the Tier 3 final rule (79 FR 23476 and 79 FR 23530)	<p>§86.113-15 Fuel specifications. * * *</p> <p>(a) Gasoline fuel. This paragraph (a) describes how to transition to an ethanol-blend test fuel for vehicles certified under subpart S of this part. You may use the test fuels specified in §86.113-04(a) for vehicles that are not yet subject to testing with the new fuel.</p> <p>[§86.113-04(a) allowed use of California Phase 2 gasoline for certain MY2014 and earlier vehicles but does not authorize California Phase II gasoline to be used for <u>Tier 3</u> certification purposes.]</p> <p>Tier 3 preamble language - page 79 FR 23476:</p> <p>"d. Test Fuels for Exhaust Criteria Emissions Standards * * *</p> <p>Vehicles certified to the provisions of Early Tier 3 (Section IV.A.7.b above) will be treated the same as Tier 3 vehicles certified in MY2017. For example, for MY2015 and 2016, EPA will consider Early Tier 3 vehicles to be part of the Tier 3 program for purposes of fuel-related testing obligations. <u>We will not accept test results using LEV II fuels for Tier 3 vehicle certification, including Early Tier 3 certifications, with the exception of the PZEV exhaust carry-over provision described below.</u>" [Emphasis added.]</p>	<p>For 2017 model year certification, can manufacturers carry over the 2016 FTP/HWY/US06/SC03 data (including Litmus test) for vehicles certified to Tier 2 Bin 5/LEVII ULEV which were tested with California Phase 2 gasoline test fuel for exhaust emission certification purposes?</p>	<p>Tier 3 exhaust emission test fuel requirements for light-duty vehicles are discussed in regulations at 40 CFR 86.113-15 and in the preamble of the Tier 3 final rule (79 FR 23476-477 and 23530, including Table IV-27, April 28, 2014).</p> <p>For certification of Tier 3 vehicles prior to MY2020 for bins higher than Bin 70, 40 CFR 86.113-15 allows manufacturers to use Tier 2 E0, LEVIII E10 or Tier 3 E10 test fuel, but not CARB Phase 2 gasoline test fuel. This prohibition on the use of CARB Phase 2 test fuel includes cases when the Phase 2 test data is carried over from previous Tier 2/LEVII test groups, with the sole exception of 2015-2019 SULEV (PZEV) carryover tests. See Table IV-27 in the preamble to the Tier 3 final rule (79 FR 23530, April 28, 2014). In the footnotes to that table, Phase 2 test fuel is only allowed for SULEV 150K exhaust testing (which may be used for Tier 3 compliance from MY2015 to 2019 only).</p>
6.2	Tier 3 Cold FTP test fuel - for low & high altitude testing	§86.113-15(a)(2)(ii); §1065.710	<p>§86.113-15 Fuel specifications. (a) Gasoline fuel. This paragraph (a) describes how to transition to an ethanol-blend test fuel for vehicles certified under subpart S of this part. * * *</p> <p>(a)(2)(ii) For vehicles that were certified to SULEV exhaust emission standards with a 150,000 mile useful life under California's LEV II program and that are eligible to use that carryover data for continued certification, you may use that carryover data to demonstrate compliance with the exhaust emission standards that apply for Bin 30 vehicles under § 86.1811-17 for model years 2015 through 2019. * * * For vehicles certified under this paragraph (a)(2)(ii), use the E10 test fuel specified in 40 CFR 1065.710 for cold temperature testing and high-altitude testing. [Emphasis added.]</p> <p>§1065.710 - Tier 3 (E10) test fuel specifications (including specifications for low temperature and high altitude E10 test fuel) - See applicable regulations</p>	<p>Per §86.113-15(a)(2)(ii), are manufacturers required to use Tier 3 Federal E10 fuel for cold temperature and high altitude testing of carryover SULEV/PZEV vehicles for Tier 3 certification.</p>	<p>Yes, based on 86.113-15(a)(2)(ii), manufacturers are required to use Tier 3 Federal E10 fuel for cold temperature and high altitude testing of carryover SULEV/PZEV vehicles for MY2015-2019 Tier 3 certification.</p> <p>Note that the provisions of §86.1829-15(c) allow manufacturers to provide a statement in their application that based on an engineering evaluation of appropriate test data, all vehicles comply with applicable emission standards at high altitude.</p> <p>Background on Tier 3 exhaust emission test fuel requirements (including cold FTP and high altitude test fuel requirements) for light-duty vehicles is discussed in the preamble of the final rule (79 FR 23495-496 and 79 FR 23530, April 28, 2014).</p>

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6.3 <small>(revised 2/25/2016)</small>	Test fuel - certification, fuel economy and litmus test requirements	§86.113-04; §86.113-15; §86.201; §86.213; §600.117 as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015).	See applicable regulations;	<p>If you could please confirm (or modify as necessary) the use of E0 or E10 test fuels for emissions compliance and fuel economy:</p> <ol style="list-style-type: none"> For EDV use either Tier 3 or LEV 3 E10 test fuel for FTP, HWFET and SFTP (cold CO/NMHC tests use the cold E10 fuel) and use LEV 3 fuel for 2-day, 3-day evap and RL testing. For ORVR use Tier 3 E10 fuel. For FEDV testing use E10 fuel for the FTP, HWFET, SFTP and the litmus test (cold CO/NMHC tests use the cold E0 fuel). 	<p>Test fuel requirements for light-duty vehicle and HDV exhaust emission tests are summarized on page 79 FR 23530 in Table IV-27 and Table IV-28 in the preamble of the Tier 3 final rule. Test fuel requirements for evaporative and refueling tests are summarized on pages 79 FR 23497-23500 and in Tables IV-22 and IV-23 in the preamble of the Tier 3 final rule.</p> <p>Test fuel requirements for FE Labels (including "litmus" test requirements), CAFE, GHG testing are discussed on pages 79 FR 23531-533 and in Table IV-29 on page 79 FR 23532 in the preamble of the Tier 3 final rule. Test fuel requirements for fuel economy are also outlined in the provisions of §600.117 and discussed in the preamble of the Tier 3 DFR technical amendments, page 80 FR 9082, Feb 19, 2015.</p> <p>Regarding the "litmus" test, please note that as outlined in the provisions of §600.117(d), "All five tests must use test fuel with the same nominal ethanol concentration."</p> <p>If a manufacturer has specific Tier 3 test fuel questions not covered by the above provisions, they should contact their EPA certification team member.</p>
6.4	ORVR test fuel	§86.113-15(a)(2)(iii)(A); §86.113-15(a)(3);	<p>§86.113-15(a)(2) You may use California test fuels to demonstrate compliance with Tier 3 emission standards as follows: * * *</p> <p>(iii) For vehicles certified for 50-state sale, you may instead use California test fuel for evaporative emission testing as follows:</p> <p>(A) If you originally certified vehicles in California in model year 2015 or 2016 to PZEV standards with California Phase 2 gasoline, you may use that data with carryover vehicles to certify to the Tier 3 evaporative emission standards through model year 2019. * * * For refueling, spitback, and high-altitude testing, you may use test fuel meeting either the gasoline (E0) test fuel specified in § 86.113-04(a) or the gasoline (E10) test fuel specified in this paragraph (a); * * *</p> <p>§86.113-15(a)(3) Except as specified in paragraph (a)(2)(iii) of this section and in this paragraph (a)(3), use E10 test fuel to demonstrate compliance with the refueling and spitback emission standards for any vehicles that must be certified to meet the diurnal plus hot soak standards with E10 test fuel under paragraphs (a)(1) and (2) of this section. You may delay using E10 test fuel until model year 2022 for incomplete heavy-duty vehicles not certified to refueling emission standards.</p>	<p>(A) The current Tier 3 regulations require manufacturers to use Tier 3 E10 test fuel for ORVRs refueling tests. LEV III E10 fuel is not allowed for the ORVR test although for the remaining evaporative tests (diurnal + H/S and bleed) require the LEV III E10. Does EPA have any leeway in allowing the use of the CARB LEV III E10 or Tier2 (E0) test fuel for the ORVR refueling test? If we provide engineering judgment regarding the equivalency, would it be possible?</p> <p>(B) Can the MY 2016 ORVR tests conducted on E0 Indolene test fuel that were used from a non PZEV test group/evaporative family be used to meet MY 2017 Tier3 EVAP?</p>	<p>(A) Tier 3 test fuel requirements for evaporative and ORVR testing are discussed in the preamble to the Tier 3 final rule (79 FR 23499, April 28, 2014). As shown in the last column of Tables IV-22 and IV-23 of the preamble, for ORVR, Tier 2 (E0 Indolene) test fuel can only be used for PZEV evaporative carryover vehicles. All other Tier 3 vehicles must use EPA Tier 3 test fuel for ORVR testing; ref. §86.113-15(a)(3). [LEV-III test fuel can't be used for ORVR testing because of the differences in RVP of LEV-III E10 (7 RVP) and Tier 3 E10 (9 RVP) test fuels.]</p> <p>(B) For Tier 3 evaporative compliance, manufacturers are required to use EPA Tier 3 (E10) test fuel for ORVR testing, except for PZEV carryover data from a vehicle originally certified in California in model year 2015 or 2016, ref. 86.113-15(a)(2)(iii)(A). Except for such a carryover PZEV test group/evaporative family, manufacturers can't carryover the Tier 2 ORVR data (tested on Indolene E0 test fuel).</p> <p>Note that for Tier 3 ORVR testing on flexible fueled vehicles (FFVs), manufacturers are generally required to use E10 test fuel with 10 RVP, ref. 86.1810-17 (h)(2).</p>

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6.5	Tier 3 Certification Test Fuel - After MY2019	§86.113-15(a)(2)(i) for exhaust testing; §86.113-15(a)(iii)(B), (C) for evaporative testing;	<p>§86.113-15(a)(2) You may use California test fuels to demonstrate compliance with Tier 3 emission standards as follows:</p> <p>(i) For vehicles certified for 50-state sale, you may instead use California Phase 3 gasoline (E10) as adopted in California's LEV III program for exhaust emission testing. Through model year 2019, we will also use this E10 fuel for any low-altitude exhaust emission testing with such vehicles. Starting in model year 2020, we may use test fuel meeting either California Phase 3 gasoline (E10) or the gasoline (E10) test fuel specified in this paragraph (a). * * *</p> <p>(iii) For vehicles certified for 50-state sale, you may instead use California test fuel for evaporative emission testing as follows: * * *</p> <p>(B) If you certify vehicles to LEV III standards with California Phase 3 gasoline (E10), you may use that collection of data to certify to the Tier 3 evaporative emission standards. Through model year 2019, we will use this same fuel to measure diurnal, hot soak, running loss, SHED rig, and canister bleed emissions (as appropriate) at low-altitude conditions; starting in model year 2020, we may use either California Phase 3 gasoline (E10) or the gasoline (E10) test fuel specified in this paragraph (a) for our testing with such vehicles. For refueling, spitback, high-altitude, and leak testing, you must use the gasoline (E10) test fuel specified in this paragraph (a), except that you may instead use the gasoline (E0) test fuel specified in § 86.113-04(a) for model year 2015 and 2016; we will use your selected fuel for our testing. Note that you may no longer certify vehicles to the Tier 3 standards based on California's rig-testing procedures after model year 2021, as described in § 86.1813-17(g).</p> <p><u>(C) For evaporative emission testing with California test fuels, perform tests based on the test temperatures specified by the California Air Resources Board.</u> [Emphasis added.]</p>	Will California LEV3 E10 data be accepted for certification for model years 2020 and beyond?	<p>Tier 3 exhaust emission test fuel requirements for light-duty vehicles are discussed in regulations at 40 CFR 86.113-15 and in the preamble of the Tier 3 final rule (79 FR 23476-477 and 23530, including Table IV-27, April 28, 2014).</p> <p>Tier 3 evaporative test fuel requirements for light-duty vehicles are discussed in the regulations at 40 CFR 86.113-15 and in the preamble of the final rule (79 FR 23497-500, including Table IV-22).</p> <p>Yes, as outlined in the provisions of §86.113-15, manufacturers may use California LEV III E10 test fuel for model years 2020 and beyond to demonstrate compliance with EPA Tier 3 exhaust and evaporative certification standards (except for cold temperature FTP, ORVR, spitback, high altitude and leak tests). Beginning with MY2020, EPA will continue to accept California LEV III E10 data for certification but will then reserve the right to do EPA confirmatory certification testing and/or EPA in-use testing using either or both of the fuels. This "either or both" only applies to cases where the manufacturer uses the California LEV III E10 fuel for certification. If the manufacturer uses EPA Tier 3 E10 test fuel for certification, EPA would only test on Tier 3 E10 test fuel.</p>
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7. Fuel Economy

7.1	Fuel Economy Labels - Smog Rating	§600.311-12(g), Table 2 and Table 3.	See Tables 2 and 3 in the provisions of §600.311-12(g).	<p><u>Table 2:</u> Should Table 2 §600.311-12 - CRITERIA FOR ESTABLISHING SMOG RATING FOR MODEL YEARS 2018-2024 also be used for MY 2017 Tier 3 vehicles?</p> <p><u>Table 3:</u> Table 3, which covers MY 2017, includes only Tier 2 standards.</p>	<p>EPA agrees that there is an error in Smog Rating Tables 2 and 3 provided in the provisions of §600.311-12. For example, Table 2 omitted the smog ratings for vehicles meeting Bin 85 and Bin 110 standards. Additionally, Table 3 omitted the smog ratings for vehicles complying with Tier 3 bin standards. These errors will be corrected in a future EPA rule.</p> <p><u>Table 2:</u> The omission of smog ratings for Bins 85 and 110 in the provisions of §600.311-12(g), Table 2 will be corrected in a future EPA rule, assigning smog ratings of "5" and "3" to 2018-2019 model year vehicles meeting Bin 85 and 110 standards, respectively.</p> <p><u>Table 3:</u> The omission of smog ratings for Tier 3 bin standards in the provisions of §600.311-12(g), Table 3 will be corrected in a future EPA rulemaking, consistent with the Tier 3 smog ratings provided in EPA guidance letters CD-14-20, December 1, 2014; and CD-15-27, November 16, 2015; available at http://www3.epa.gov/otaq/cert/dearmfr/dearmfr.htm.</p>
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7.2	Fuel Economy - Litmus test calculations on E10 test fuel	§600.115-11; §600.117, as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015)	<p>§600.115-11 - See applicable regulations.</p> <p>§600.117 Interim provisions. * * *</p> <p>(d) Manufacturers may perform testing with the appropriate gasoline test fuels specified in 40 CFR 86.113-04(a)(1), 40 CFR 86.213(a)(2), and in 40 CFR 1065.710(b) to evaluate whether their vehicles meet the criteria for derived 5-cycle testing under 40 CFR 600.115. All five tests must use test fuel with the same nominal ethanol concentration.</p>	<p>For gasoline-fueled vehicles, if manufacturers use Tier 3 fuel (E10) for litmus test, is it correct that manufacturers should calculate mpg per the equation in 600.113-12 (h)(1) using an R-Factor of 0.6, but then using the actual E10 test fuel's characteristics for carbon weight factor (CWF), net heating value (NHV), and specific gravity (SG)?</p>	<p>Fuel economy requirements (including "litmus" test, fuel economy labeling, CAFE and GHG testing requirements) are discussed in the preamble of the Tier 3 final rule (79 FR 23531-533, including Table IV-29). Interim test fuel requirements for the fuel economy litmus test are also outlined in 600.117(d) and discussed in the preamble of the Tier 3 DFR (80 FR 9082, Feb 19, 2015).</p> <p>Yes, this is correct. The preamble to the Tier 3 final rule (79 FR 23532) states that "EPA will provide guidance on determining the values for the other fuel quality parameters needed for the fuel economy calculations when Tier 3/LEV III fuel is used." In the interim until EPA guidance is provided, manufacturers should use good engineering judgment to determine the appropriate CWF, NHV and SG for individual batches of E10 test fuel. Manufacturers should consider guidance provided in the EPA guidance letter CD-95-09, June 1, 1995. This letter addressed how to determine mpg for testing done using California phase-2 test fuel instead of the Federal E0 test fuel. The guidance issues are not identical to the E10 case but CD-95-09 should provide insight regarding what engineering judgments would be needed to determine CWF, NHV and SG fuel properties for E10 mpg testing.</p>
7.3 <small>(revised 2/25/2016)</small>	Fuel Economy - Litmus test evaluation on E0 and E10 test fuel	§600.115-11 §600.117; as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015)	<p>§600.115-11 - See applicable regulations.</p> <p>§600.117 Interim provisions. * * *</p> <p>(d) Manufacturers may perform testing with the appropriate gasoline test fuels specified in 40 CFR 86.113-04(a)(1), 40 CFR 86.213(a)(2), and in 40 CFR 1065.710(b) to evaluate whether their vehicles meet the criteria for derived 5-cycle testing under 40 CFR 600.115. All five tests must use test fuel with the same nominal ethanol concentration.</p>	<p>When 5 cycle testing is conducted with both Tier 2 and Tier 3 fuels (e.g., EDV test with Tier 3 fuel and litmus test with Tier 2 fuel), is it up to the manufacturer to decide which test result to use for litmus assessment?</p>	<p>Fuel economy labeling requirements (including "litmus" test requirements) are discussed in the preamble of the Tier 3 final rule (79 FR 23531-533, including Table IV-29). Interim test fuel requirements for the fuel economy litmus test are in §600.117(d) and discussed in the preamble of the Tier 3 DFR (80 FR 9082, Feb 19, 2015).</p> <p>The interim provisions of §600.117(d) allow the manufacturer to perform the litmus test using either E0 or E10 test fuel through the 2019 model year. There is no discussion regarding which result to use should the manufacturer have both sets of litmus test results (e.g. results on E0 and E10 test fuel). However, since E0 test data are required to be used for FE labeling, CAFE and GHG purposes in the interim 2017 to 2019 model years, EPA believes that litmus test results on E0 test fuel should take precedence over litmus tests performed on E10 test fuel. Thus, if a manufacturer has both sets of litmus test data, EPA would consider the litmus test performed on E0 test fuel to be the official litmus test.</p> <p>In the interim model years through the 2019 model year, manufacturers should document the official litmus test results in the application for certification for each test group (instead of relying on the litmus test calculations performed in the EPA Verify database). For example, manufacturers should disregard any Verify-calculated litmus test results in the Verify Certification Summary Information (CSI) Report and enter "Y" (Yes) in the "Litmus Bypass Indicator" field (GL-200) in the Verify FE Label Module.</p>

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7.4	Fuel Economy - Manufacturer Confirmatory Testing and Retest Criteria on E10 test fuel	§600.008(b); §86.1835-01(b)(3); §600.117(a) to (d) as revised in the Tier 3 DFR (80 FR 9078, Feb 19, 2015),	<p>§600.117 Interim provisions.</p> <p>The following provisions apply instead of other provisions specified in this part through model year 2019:</p> <p>(a) Except as specified in paragraph (e) of this section, manufacturers must demonstrate compliance with greenhouse gas emission standards and determine fuel economy values using E0 gasoline test fuel as specified in 40 CFR 86.113-04(a)(1), regardless of any testing with Tier 3 test fuel under paragraph (b) of this section.</p> <p>* * *</p> <p>(e) For IUVP testing under § 86.1845, manufacturers may demonstrate compliance with greenhouse gas emission standards using a test fuel meeting specifications for demonstrating compliance with emission standards for criteria pollutants.</p>	Are manufacturer confirmatory certification and fuel economy tests on E10 test fuel subject to manufacturer confirmatory testing for fuel economy purposes and to the 3% fuel economy retest criteria?	<p>Tier 3 test fuel requirements are discussed in the preamble to the Tier 3 final rule (79 FR 23531-533). As provided in §600.117(a), certification tests conducted on E10 test fuel are not used for fuel economy labeling, CAFE or GHG purposes through MY2019, and therefore are not subject to manufacturer confirmatory test requirements provided in §86.1835-01(b)(1)(iii), (iv), (v) and (vi) (or EPA fuel economy testing provided in §600.008) based on the fuel economy criteria or potential gas guzzler tax criteria, ref. EPA guidance letter CD-15-22, September 14, 2015. Additionally, E10 tests are not subject to EPA or manufacturer 3% fuel economy retest criteria provided in §86.1835-01(a)(4) and (b)(3). They are still subject to manufacturer confirmatory testing (and EPA testing) based on the emissions criteria.</p> <p>As outlined in the preamble to the Tier 3 final rule (79 FR 23531), the implications of Tier 3 E10 test fuel changes on CAFE, GHG and fuel economy labels will be addressed in a future rulemaking action. Thus, the answer to this question is expected to change as a result of that future rulemaking action.</p>
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8. Heavy-Duty Vehicle Requirements - See Question 10.1

9. High Altitude Requirements - See Questions 4.5, 6.2, 14.4 and 14.5

10. Miscellaneous

10.1	HDV interim full useful life	§86.1816-18(b)(7)(i)	<p>§86.1816–18 Emission standards for heavy-duty vehicles. * * *</p> <p>(b) Tier 3 exhaust emission standards * * *</p> <p>(7) The following provisions describe the primary approach for phasing in the Tier 3 standards other than PM in 2022 and earlier model years: (i) The fleet-average FTP emission standard for NMOG+NOX phases in over several years. * * * * You may certify using transitional bin standards specified in Table 5 of this section through model year 2021; these vehicles are subject to FTP emission standards for PM and formaldehyde as described in paragraph (b)(2) of this section. You may use the E0 test fuel specified in § 86.113 for gasoline-fueled vehicles certified to the transitional bins; <u>the useful life period for these vehicles is 120,000 miles or 11 years.</u> [Emphasis added.]</p>	<p>For the heavy-duty vehicle (HDV) primary (declining fleet average NMOG + NOx) program outlined in the provisions of 86.1816-18(b)(7), to count as Tier 3 compliance, can a HDV transitional Bin395 test group be certified to 120K useful life emission standards (or is 150K useful life required)?</p>	<p>HDV bin structure is discussed in the preamble of the final rule (79 FR 23482-484). HDV useful life requirements for HDV interim bins are discussed in the preamble of the final rule (79 FR 23492).</p> <p>To count as Tier 3 compliance in the Tier 3 HDV primary (declining fleet average NMOG + NOx) phase-in outlined in §86.1816-18(b)(7)(i), an interim HDV Bin 395 test group may be certified to either the 120K or 150K full useful life standards. 120K full useful life is required thru MY2021 for HDV transitional bins; ref. §86.1816-18(b)(7)(i). Manufacturers may optionally certify vehicles in transitional bins to 150K full useful life standards. Transitional bin vehicles are included in the Tier 3 HDV declining NMOG + NOx fleet average calculations regardless of whether they are certified to 120K or 150K full useful life; ref. §86.1816-18(b)(7)(i).</p>
10.2	Road-Load Horsepower (RLHP)	§1066.305(a) as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015)	<p>§1066.305 Procedures for specifying roadload forces for motor vehicles at or below 14,000 pounds GVWR. (a) For motor vehicles at or below 14,000 pounds GVWR, develop representative road-load coefficients to characterize each vehicle covered by a certificate of conformity. Calculate roadload target coefficients by performing coastdown tests using the provisions of SAE J2263 (incorporated by reference in § 1066.1010). This protocol establishes a procedure for determination of vehicle road load force for speeds between 115 and 15 km/h (71.5 and 9.3 mi/h); the final result is a model of road-load force (as a function of speed) during operation on a dry, level road under reference conditions of 20 °C, 98.21 kPa, no wind, no precipitation, and the transmission in neutral. You may use other methods that are equivalent to SAE J2263, such as equivalent test procedures or analytical modeling, to characterize road load using good engineering judgment. Determine dynamometer settings * * * "</p>	<p>The language provided in §1066.305(a) related to road load determination in the Tier 3 DFR (80 FR 9078, February 19, 2015) deleted reference to SAE J1263 and retained only SAE J2263. Why was the SAE J1263 reference deleted?</p>	<p>This matter was addressed in EPA guidance letter CD-15-04, February 23, 2015 which clarifies what SAE practices are applicable. SAE J2263 is adopted by reference in the provisions of §1066.305(a) since it applies in its entirety; whereas J1263 as a whole no longer applies.</p> <p>SAE J1263 applied to the case of the former twin roll hydrokinetic dynamometers. However portions of J1263 are still applicable to current coastdown testing performed on single roll electric dynamometers as clarified in EPA guidance letter CD-15-04.</p>

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11. Particulate Matter (PM) Requirements - Also see Questions 2.1 and 14.1

11.1	PM - IUVP requirements	<p>§86.1845-04(b)(5)(ii) and (c)(5)(ii), as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015).</p>	<p>Tier 3 preamble page 79 FR 23455: Similarly, manufacturers performing in-use testing under the In-Use Verification Program can limit their testing to 50 percent of their low- and high-mileage test vehicles. Again, manufacturers will need to rotate their vehicle models so that each model will be tested every other year.</p> <p>§86.1845-04 Manufacturer in-use verification testing requirements. * * *</p> <p>(b) Low mileage testing (1) Test groups. Testing must be conducted for each test group. * * *</p> <p>(5) Testing. (i) Each test vehicle of a test group shall be tested in accordance with the FTP and the US06 portion of the SFTP as described in subpart B of this part, when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart. Test vehicles subject to applicable exhaust CO2 emission standards under this subpart shall also be tested in accordance with the HFET as described in 40 CFR 1066.840. (ii) For vehicles subject to Tier 3 PM standards, manufacturers must measure PM emissions over the FTP and US06 driving schedules for at least 50 percent of the vehicles tested under paragraph (b)(5)(i) of this section. * * *</p> <p>(c) High mileage testing (1) Test groups. Testing must be conducted for each test group. * * *</p> <p>(5)(i) - See applicable regulations (similar to (b)(5)(i) above). * * *</p> <p>(ii) For vehicles subject to Tier 3 PM standards, manufacturers must measure PM emissions over the FTP and US06 driving schedules for at least 50 percent of the vehicles tested under paragraph (c)(5)(i) of this section.</p>	<p>The regulations require manufacturers to test 50 percent of In-Use Verification Program (IUVP) vehicles for PM. However, it is not clear which of the following interpretations apply: (1) Do manufacturers test 50% of the IUVP test groups each year and then rotate so that all test groups get tested? (2) Or do manufacturers test every test group each year but only test 50% of the vehicles in each test group each year?</p>	<p>Tier 3 PM requirements for light-duty vehicles are discussed in the preamble of the Tier 3 final rule (79 FR 23451-458, April 28, 2014). Tier 3 IUVP PM requirements for light-duty vehicles are also discussed in the preamble of the Tier 3 final rule (79 FR 23455). Tier 3 IUVP PM requirements for light-duty and heavy-duty class 2b/3 vehicles are at §86.1845-04(b)(5)(ii) and (c)(5)(ii), as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015).</p> <p>Based on the preamble language and the regulations above, we are providing the following clarification for IUVP PM testing requirements. Manufacturers should use approach (2), test every test group each year but manufacturers are only required to test 50 percent of the vehicles in each test group. We recommend IUVP PM testing as follows:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">Sales</td> <td style="width: 33%;">Low Mileage Vehicles</td> <td style="width: 33%;">High Mileage Vehicles</td> </tr> <tr> <td>1-50,000</td> <td>2 vehs* (1 tested for PM)</td> <td>4 vehs* (2 tested for PM)</td> </tr> <tr> <td>50,001-250,000</td> <td>3 vehs* (1 tested for PM)</td> <td>5 vehs* (3 tested for PM)</td> </tr> <tr> <td>Above 250,000</td> <td>4 vehs* (2 tested for PM)</td> <td>6 vehs* (3 tested for PM)</td> </tr> </table> <p>Note that although Tier 2 diesel-fueled IUVP vehicles are required to measure PM on all IUVP vehicles**, Tier 3 diesel-fueled IUVP vehicles may follow the above guidance for IUVP PM testing.</p> <p>* Ref. §86.1845-04(b)(3) and (c)(3). **PM testing waivers are not applicable to Tier 2 diesel-cycle vehicles, ref. §86.1829-01(b)(1)(ii)(B); §86.1829-15 (d) and §86.1845-04(b)(5) and (c)(5).</p>	Sales	Low Mileage Vehicles	High Mileage Vehicles	1-50,000	2 vehs* (1 tested for PM)	4 vehs* (2 tested for PM)	50,001-250,000	3 vehs* (1 tested for PM)	5 vehs* (3 tested for PM)	Above 250,000	4 vehs* (2 tested for PM)	6 vehs* (3 tested for PM)
Sales	Low Mileage Vehicles	High Mileage Vehicles															
1-50,000	2 vehs* (1 tested for PM)	4 vehs* (2 tested for PM)															
50,001-250,000	3 vehs* (1 tested for PM)	5 vehs* (3 tested for PM)															
Above 250,000	4 vehs* (2 tested for PM)	6 vehs* (3 tested for PM)															

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11.2	PM - certification requirements for Diesel vehicles	§86.1829-15(d)(1), as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015).	<p>§86.1829-15 Durability and emission testing requirements; waivers.</p> <p>(d) Manufacturers may omit exhaust testing for certification in certain circumstances as follows: (1) <u>For vehicles subject to the Tier 3 PM standards in § 86.1811</u>, a manufacturer may provide a statement in the application for certification that vehicles comply with applicable PM standards instead of submitting PM test data for a certain number of vehicles. However, each manufacturer must test vehicles from a minimum number of durability groups as follows: (i) Manufacturers with a single durability group subject to the Tier 3 PM standards in § 86.1811 must submit PM test data for that group. (ii) Manufacturers with two to eight durability groups subject to the Tier 3 PM standards in § 86.1811 must submit PM test data for at least two durability groups each model year. EPA will work with the manufacturer to select durability groups for testing, with the general expectation that testing will rotate to cover a manufacturer's whole product line over time. If a durability group has been certified in an earlier model year based on submitted PM data, and that durability group is eligible for certification using carryover test data, that carryover data may count toward meeting the requirements of this paragraph (d)(1), subject to the selection of durability groups. (iii) Manufacturers with nine or more durability groups subject to the Tier 3 PM standards in § 86.1811 must submit PM test data for at least 25 percent of those durability groups each model year. We will work with the manufacturer to select durability groups for testing as described in paragraph (d)(1)(ii) of this section.</p> <p>[Emphasis added.]</p>	<p>For Tier 3 light-duty vehicle certification requirements, do manufacturers have to test 100 percent of diesel certification vehicles for PM (similar to Tier 2 requirements) or can they use the same Tier 3 PM certification testing approach for gasoline vehicles as outlined in the provisions of §86.1829-15(d)(1)?</p>	<p>Tier 3 PM certification requirements for light-duty vehicles are in §86.1829-15(d)(1), as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015); and discussed in the preamble of the Tier 3 final rule (79 FR 23455).</p> <p>Neither §86.1829-15(d)(1) nor the preamble discussion (79 FR 23455) differentiate between PM certification testing requirements for light-duty gasoline and diesel vehicles. The preamble discussion, for example, reads as follows:</p> <p>"Because of the expected time and expense of performing emission tests on the improved PM test procedures, we are limiting the number of tests using the new procedures that a manufacturer needs to perform at certification and during in-use testing, as proposed. Specifically, manufacturers will only be required to test vehicles representing a minimum of 25 percent of a model's durability test groups during certification each model year (and a minimum of 2 durability groups).²⁵⁶ Manufacturers may select which durability groups to test, but will need to rotate the groups tested each year to eventually cover their whole fleet."</p> <p>Thus, based on §86.1829-15(d)(1) and the preamble discussion in the Tier 3 final rule, manufacturers may make a PM statement of compliance and submit PM test data for a reduced number of durability groups in lieu of providing PM test data for diesel-fueled light-duty vehicles certified to Tier 3 PM standards.</p> <p>Notes: 1. These regulations (and this answer) applies to light-duty vehicles (and not heavy-duty diesel vehicles). 2. EPA may measure PM during EPA confirmatory certification tests for gasoline and diesel-fueled emission-data vehicles (whether or not manufacturers measured PM on the emission-data vehicle).</p>
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12. SFTP Requirements

12.1	SFTP standards - 4K SFTP standards for Interim LDVs	§86.1811-17(b)(8)(iii)(C) as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015)	<p>§86.1811-17(b)(8)(iii) Interim provisions. * * *</p> <p>(C) Vehicles must continue to comply with the Tier 2 SFTP emission standards for NMHC+NOX and CO for 4,000-mile testing as specified in § 86.1811-04(f)(1) if they are certified to transitional Bin 85 or Bin 110 standards, or if they are certified based on a fuel without ethanol, or if they are not certified to the Tier 3 PM standard.</p>	For interim LDVs, LDTs and MDPVs, the 4000 mile (4K) SFTP standards did not appear in the original Tier 3 regulations but was added via the DFR, ref. §86.1811-17(b)(8)(iii)(C). Why was this added and to which vehicles does it apply?	<p>The 4K SFTP standards were proposed in the NPRM for interim light-duty vehicles (e.g. LDVs, LDTs and MDPVs) and discussed in the preamble of the Tier 3 final rule (79 FR 23477-78) but were inadvertently omitted from the regulatory text of the Tier 3 final rule. This was corrected in §86.1811-17(b)(8)(iii)(C) as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015).</p> <p>As discussed in the preamble to the Tier 3 final rule (79 FR 23477-78) and §86.1811-17(b)(8)(iii)(C), the 4K SFTP standard applies to all vehicles certified as "interim Tier 3 vehicles" but does not apply to vehicles certified as "final Tier 3 vehicles." A vehicle is considered a "final Tier 3" vehicle if all of the following conditions are met:</p> <ol style="list-style-type: none"> (1) Certification is based on 150K useful life (or 120K useful life combined with the 85% declining fleet average standard); (2) Certification is based on Tier 3 E10 test fuel (also certification based upon Cal LEV III E10 may be acceptable); (3) The vehicle is certified to a final Tier 3 NMOG + NOx bin and the Tier 3 PM standards (i.e., for PM, any vehicles included in the Tier 3 PM phase-in which are certified to the 3 mg/mi FTP standard regardless of whether it is also certified to the 10 or 6 mg/mi SFTP standard); and (4) Transitional bins 85 and 110 are not considered "final Tier 3 bins" regardless of the test fuel and useful life that is used.
12.2	Interim Tier 3 MDPV - SFTP Standards	§86.1811-17(a); §86.1811-17(b)(8)(iii)(C); both as revised in the Tier 3 DFR (80 FR 9078, February 19, 2015).	<p>§86.1811-17 Exhaust emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles.</p> <p>"(a) Applicability and general provisions. This section describes exhaust emission standards that apply for model year 2017 and later light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles. <u>MDPVs are subject to all the same emission standards and certification provisions that apply to LDT4.</u> * * * * [Emphasis added]</p> <p>(b) Tier 3 exhaust emission standards. * * *</p> <p>(8) The following provisions describe the primary approach for phasing in the Tier 3 standards other than PM in 2025 and earlier model years: * * *</p> <p>(iii) Interim provisions. * * *</p> <p>(C) Vehicles must continue to comply with the Tier 2 SFTP emission standards for NMHC+NOX and CO for 4,000-mile testing as specified in § 86.1811-04(f)(1) if they are certified to transitional Bin 85 or Bin 110 standards, or if they are certified based on a fuel without ethanol, or if they are not certified to the Tier 3 PM standard.</p>	<p>A. There is a LEV III reference located in section 1.2.2.1.2 "SFTP NMOG+NOx and CO Composite Exhaust Emission Standards – footnote 3" that exempts carryover/interim MDPV's from the LEV III SFTP requirements. We understood that the same would be true for interim Tier 3 MDPV's since these would essentially be carry-over Tier 2's that do not have an SFTP requirement. However, the Tier 3 regulation is not clear. Can you provide us with any clarification?</p> <p>B. One additional point of clarification: these interim Tier 3 MDPVs (i.e., with no previous Tier 2 SFTP requirement / data) would need to be assigned an FEL and added to the SFTP fleet average, but I assume that they would not also need to meet interim 4k standards like non-MDPV interim Tier 3 vehicles which previously did have to meet SFTP. Is this correct; ref. §86.1811-17 (b)(8)(iii)(C)?</p>	<p>Tier 3 SFTP requirements for light-duty vehicles and MDPVs are discussed in the preamble of the Tier 3 final rule (79 FR 23455-458 and 23477-478, April 28, 2014) and at §86.1811-17(a), (b) and (b)(8)(iii)(C).</p> <p>A. The provisions of §86.1811-17(a) and (b) don't provide any exclusions for MDPVs similar to CARB regulations. During the Tier 3 rulemaking process EPA was aware of the CARB LEV III exclusion for MDPVs, however EPA did not propose or promulgate a similar exclusion. EPA Tier 3 regulations require MDPVs & HLDTs to meet SFTP requirements beginning in the 2018 model year, ref. 86.1811-17(b)(8)(ii)(A) and footnote in Table 4 of 86.1811-17. These MDPVs are largely the same powertrains as light-duty pick-up trucks which are already meeting SFTP requirements or they are similar to heavy-duty cargo vans which will be phasing into SFTP requirements in MY2018.</p> <p>B. As discussed in the preamble to the Tier 3 final rule (80 FR 23477-478), the SFTP 4K requirement for interim Tier 3 vehicles was intended to apply to all light-duty vehicle classes, including MDPVs. Although the Tier 3 final rule regulations didn't include the 4K SFTP standard, it was added to the regulations by the Tier 3 technical amendments (80 FR 9078, February 19, 2015). See the provisions of §86.1811-17(b)(8)(iii)(C).</p>

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13. Small Volume Manufacturer Requirements - See Questions 1.2 and 2.2

14. SULEV/PZEV Carryover Vehicle Requirements - Also see Questions 4.5, 5.2 and 6.2

14.1	SULEV/PZEV carryover vehicles - PM Compliance	§86.101(b)(2)(ii) §86.1811-17(b)(7) §86.1839-01(a)(2)	<p>§86.101 General applicability. * * *</p> <p>(b) Migration to 40 CFR parts 1065 and 1066. This subpart transitions to rely on the test procedure specifications in 40 CFR parts 1065 and 1066 as follows: * * *</p> <p>(2) Manufacturers must use the following procedures before model year 2022: * * *</p> <p>(ii) Equipment specifications and measurement procedures that are specific to PM emissions from 40 CFR part 1066 apply for any vehicles certified to the Tier 3 PM emission standards specified in subpart S of this part.</p> <p>§86.1811-17(b)(7) The Tier 3 PM standards phase in over several years. The following provisions describe the primary approach for phasing in the Tier 3 PM standards: * * *</p> <p>(iv) Any vehicles not included for demonstrating compliance with the Tier 3 PM phase-in requirement must instead comply with an FTP emission standard for PM of 0.010 g/mile, and a composite SFTP emission standard for PM of 0.070 g/mile. * * *</p> <p>(vi) You may certify Interim Tier 3 vehicles based on carryover data.</p> <p>§86.1839-01(a)(2) – See applicable regulations.</p>	Per the Tier 3 PM phase-in provisions of § 86.1811-17(b)(7), please confirm that SULEV/PZEV data can be used for phased-in Tier 3 PM standard although it was not tested using the new required PM equipment and procedures outlined in the provisions of 86.101(b)(2)(ii) and Part 1065/1066 regulations.	<p>In general, EPA policy for the use of the use of carryover emission data is provided in §86.1839-01(a)(2) and EPA Advisory Circular 17F. Carryover of California SULEV/PZEV data is discussed in the preamble of the Tier 3 final rule (79 FR 23477, April 28, 2014), however that discussion does not address the carryover of PM data. In many cases we expect that PM emissions were not measured on carryover SULEV/PZEV vehicles (in which case carryover PM data could not be used to demonstrate compliance with the Tier 3 PM standards).</p> <p>Tier 3 PM phase-in and the use of Tier 2 carryover PM data is discussed in the preamble of the Tier 3 final rule (79 FR 23478-479) and in 86.1811-17(b)(7)(vi), which allow manufacturers to certify Interim Tier 3 vehicles based on carryover PM data from vehicles originally certified to Tier 2, LEV 2 or LEV-III PM standards.</p> <p>For cases where manufacturers measured PM emissions on carryover SULEV/PZEV vehicles and the PM data complies with final Tier 3 PM standards, (but the manufacturer didn't use 1065/1066 equipment and procedures to measure PM emissions) the manufacturer may request EPA approval to carryover that PM data based on the provisions of §86.1839-01 and either §86.106(a) or §1066.10(c). Such requests should describe the type of equipment and procedures which were used to measure PM emissions, the 1065/1066 requirements and provide justification why the manufacturer believes that the emission data would comply with Tier 3 PM standards if the required 1065/1066 equipment and procedures were used.</p>
14.2	SULEV/PZEV carryover vehicles - Tier 3 Evaporative Leak Test Requirements	§86.113-15(a)(2)(iii)(A); §86.1813-17(g)(3); §1066.985;	<p>§86.113-15(a)(2) You may use California test fuels to demonstrate compliance with Tier 3 emission standards as follows: * * *</p> <p>(iii) For vehicles certified for 50-state sale, you may instead use California test fuel for evaporative emission testing as follows:</p> <p>(A) If you originally certified vehicles in California in model year 2015 or 2016 to PZEV standards with California Phase 2 gasoline, you may use that data with carryover vehicles to certify to the Tier 3 evaporative emission standards through model year 2019. We will use this same fuel to measure diurnal, hot soak, running loss, and SHED rig emissions at low-altitude conditions for such vehicles. For refueling, spitback, and high-altitude testing, you may use test fuel meeting either the gasoline (E0) test fuel specified in § 86.113-04(a) or the gasoline (E10) test fuel specified in this paragraph (a); we may use either of the specified fuels for our testing. For leak testing, you must use the gasoline (E10) test fuel specified in this paragraph (a). [Emphasis added.]</p> <p>§86.1813-17(g)(3) - Regulations are provided in question 5.2.</p>	Please confirm whether the E10 leak test results should be submitted with carryover SULEV/PZEV zero evaporative data for phase-in Tier 3 evaporative compliance or not, ref. §86.113-15.	<p>Leak test requirements are discussed in the preamble of the Tier 3 final rule (79 FR 23516-23521, April 28, 2014). The leak test procedure is outlined in the provisions of §1066.985.</p> <p>Yes, based on §86.113-15(a)(2)(iii)(A) and §86.1813-17(g)(3), leak test results are required to be submitted with carryover SULEV/PZEV evaporative data. E10 is the required test fuel for the leak test, ref. §86.113-15(a)(2)(iii)(A) and §86.1813-17(a)(1)(iii). Note that carryover SULEV/PZEV Option 1 evaporative data (tested on California E0 Phase 2 test fuel) can only be used in lieu of Tier 3 evaporative data through the 2019 model year, ref. §86.113-15(a)(2)(iii)(A).</p> <p>For certification, manufacturers may provide a statement of compliance in the application in lieu of providing leak test data, ref. 86.1829-15(e)(4). For IUVP testing, manufacturers are not required to perform leak tests on 2017 model year and earlier vehicles, ref. 86.1845-04(b)(5)(iii).</p>

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This document was prepared by EPA's Office of Transportation and Air Quality (OTAQ). It contains a record of EPA responses to manufacturer questions received prior to October 16, 2015 with respect to implementation of the Tier 3 final rule (79 FR 23414, April 28, 2014) as amended (80 FR 9078, February 19, 2015; 80 FR 26463, May 8, 2015). This document is intended to aid regulated parties in achieving compliance with regulations for light-duty and certain heavy-duty class 2b and 3 vehicles (40 CFR Parts 85, 86, 600, 1065, 1066).

This document does not in any way alter the requirements in EPA regulations. Although the answers provided in this document may interpret regulations and indicate general plans for implementation of the regulations at this time, EPA's responses may change without notice as additional information becomes available, or as the agency further considers certain issues. The questions and answers in this document do not establish or change the legal rights or obligations of manufacturers or others in complying with EPA regulations. Further, this document does not establish binding rules or requirements and is not fully determinative of the issues addressed. EPA decisions in any particular case will be made applying the law and regulations on the basis of specific facts.

14.3	SULEV/PZEV carryover vehicles - Warranty Requirements	<p>Defect Warranty: Section 207(a) of the Clean Air Act (CAA). There are currently no defect warranty regulations.</p> <p>Performance Warranty: Section 207(b) of CAA; Part 85 Subpart V;</p> <p>EPA guidance letter CD-15-18, August 24, 2015;</p> <p>PZEV Evaporative requirements: §86.1813-17(g)(2)(i)</p>	<p>For EPA warranty requirements, see applicable provisions of the CAA; regulations and the EPA guidance letter.</p> <p>§86.1813–17 Evaporative and refueling emission standards. * * *</p> <p>(g) Alternative phase-in options for Tier 3 evaporative emission standards. You may use any of the following alternative methods to transition to the Tier 3 evaporative emission standards: * * *</p> <p>(2) The following alternative phase-in options apply for model year 2017: (i) You may disregard the percentage phase-in specified in paragraph (a)(5) of this section for 2017 if you choose 50- state certification for all your vehicles meeting the LEV III PZEV evaporative standards in 2017. Under this option, you may not produce a higher-emitting version of those vehicle models for sale outside of California or the section 177 states. Such vehicles may be certified using carryover data under the California program, but they may not generate or use emission credits. LDV and LDT1 that comply under this paragraph (g)(2)(i) may not generate allowances under paragraph (g)(1) of this section, regardless of the calculated percentage of compliant vehicles in model year 2017.</p>	<p>For model year 2017 evaporative certification, if a manufacturer takes the "Nationwide/50-state-cert LEV/III-PZEV zero-evap option" as outlined in the provisions of §86.1813-17(g)(2)(i) in lieu of MY2017 40% requirement, is our understanding correct that this option would <u>not</u> require the vehicles sold in the federal fleet areas (i.e., non-California/177 states) to comply with the California PZEV 15 year/150,000 mile warranty requirements?</p>	<p>The 2017 model year evaporative phase-in options (including the option to sell PZEV vehicles nationwide) are discussed in the preamble of the Tier 3 final rule (79 FR 23498, April 28, 2014). Carryover of California SULEV/PZEV data are also discussed (79 FR 23477, 23495, 23499, and 23504). As discussed in those sections, EPA intends to allow carryover of California SULEV/PZEV data to demonstrate compliance with Tier 3 exhaust and evaporative emission standards.</p> <p>Yes, your understanding is correct. While a vehicle sold in California and 177 states must meet the 15 year/150,000 mile warranty requirement to qualify as being a PZEV, the Tier 3 option to sell PZEV evaporative systems nationwide only applies to vehicles complying with the evaporative standard. Vehicles sold in the federal areas (i.e., outside of California and the section 177 states) would only need to comply with the federal warranty requirements. The option to certify for evaporative emission purposes by selling "PZEV evap" vehicles nationwide only applies to the standards. The regulations at 86.1813-17(g)(2)(i) refer to vehicles "meeting the LEV III PZEV evaporative standards in 2017."</p>
14.4	SULEV/PZEV carryover vehicles - High Altitude Compliance	<p>§86.1829-15(c)</p>	<p>§86.1829–01 Durability and emission testing requirements; waivers. * * *</p> <p>(c) The manufacturer must demonstrate compliance with emission standards at low-altitude conditions as described in paragraph (b) of this section. For standards that apply at high-altitude conditions, the manufacturer may either perform the same tests or provide a statement in the application for certification that, based on an engineering evaluation of appropriate testing to measure or simulate high-altitude emissions, all vehicles comply with applicable emission standards at high altitude.</p>	<p>To what extent do manufacturers have to conduct additional tests at high altitude for evaporative emissions with regard to carryover LEV II PZEVs to qualify as Tier 3 vehicles?</p>	<p>High altitude evaporative requirements for PZEV carryover vehicles are discussed in the preamble of the final rule, page 23496, and in §86.1813-17 and §86.1829-15(c).</p> <p>PZEVs like any other vehicle certified to Tier 3 evaporative/refueling standards are subject to a requirement to demonstrate compliance at high altitude. However, the provisions of §86.1829-15(c) provide manufacturers with the flexibility to provide a statement in their application that based on an engineering evaluation of appropriate testing, all vehicles comply with applicable emission standards at high altitude.</p>
14.5	SULEV/PZEV carryover vehicles - High Altitude Evaporative Standards	<p>§86.1813-17(a)(2)(ii)(B)</p>	<p>§86.1813–17 Evaporative and refueling emission standards. Vehicles must meet evaporative and refueling emission standards as specified in this section. These standards apply for heavy duty vehicles above 14,000 pounds GVWR as specified in § 86.1801. The emission standards apply for total hydrocarbon equivalent (THCE) measurements using the test procedures specified in subpart B of this part, as appropriate..... * * *</p> <p>(a)(2)(ii)(B) Calculate the FEL for testing at high-altitude conditions based on the difference between the low-altitude FEL and the standard. For example, if a light-duty vehicle was certified with an FEL of 0.400 g instead of the 0.300 g standard, the FEL for testing under highaltitude conditions would be 0.75 g (0.65+0.10).</p>	<p>How would the high altitude evaporative standard for LEV II PZEVs be calculated?</p>	<p>High altitude evaporative requirements are discussed in the preamble of the final rule (79 FR 23495-496) and in §86.1813-17 and §86.1813-17(a)(2)(ii)(B).</p> <p>Based on §86.1813-17(a)(2)(i) and (a)(2)(ii)(B), the applicable high altitude hot soak plus diurnal standard for LDV/LDT1 LEV-II PZEV carryover vehicles would be 0.65 grams/test.</p> <ul style="list-style-type: none"> • Even though the "in-use" enforcement level at low altitude would be 350 mg/test rather than 300 mg/test as discussed in Question 5.2, it was EPA's intent for the high altitude standard to apply as if these vehicles were certified to a low altitude FEL of 300 mg/test. • The high altitude standards shown in Table 1 of §86.1813-17 would apply to vehicles certified to an FEL equal to the category standard. This is 0.65 grams/test for the LDV/LDT1 category.