

§ 1039.510

40 CFR Ch. I (7–1–06 Edition)

(e) See 40 CFR part 1065 for detailed specifications of tolerances and calculations.

(f) For those cases where transient testing is not necessary, perform the steady-state test according to this section after an appropriate warm-up period, consistent with 40 CFR part 1065, subpart F.

§ 1039.510 Which duty cycles do I use for transient testing?

(a) Measure emissions by testing the engine on a dynamometer with one of the following transient duty cycles to determine whether it meets the transient emission standards in § 1039.101(a):

(1) For variable-speed engines, use the transient duty cycle described in Appendix VI of this part.

(2) [Reserved]

(b) The transient test sequence consists of an initial run through the transient duty cycle from a cold start, 20 minutes with no engine operation, then a final run through the same transient duty cycle. Start sampling emissions immediately after you start the engine. Calculate the official transient emission result from the following equation:

Official transient emission result = $0.05 \times$ cold-start emission rate + $0.95 \times$ hot-start emission rate.

[69 FR 39213, June 29, 2004, as amended at 70 FR 40463, July 13, 2005]

§ 1039.515 What are the test procedures related to not-to-exceed standards?

(a) *General provisions.* The provisions in 40 CFR 86.1370–2007 apply for determining whether an engine meets the not-to-exceed emission standards in § 1039.101(e). Interpret references to vehicles and vehicle operation to mean equipment and equipment operation.

(b) *Special PM zone.* For engines certified to a PM standard or FEL above 0.07 g/kW-hr, a modified NTE control area applies for PM emissions only. The speeds and loads to be excluded are determined based on speeds B and C, determined according to the provisions of 40 CFR 86.1360–2007(c). One of the following provisions applies:

(1) If the C speed is below 2400 rpm, exclude the speed and load points to

the right of or below the line formed by connecting the following two points on a plot of speed-vs.-power:

(i) 30% of maximum power at the B speed; however, use the power value corresponding to the engine operation at 30% of maximum torque at the B speed if this is greater than 30% of maximum power at the B speed.

(ii) 70% of maximum power at 100% speed.

(2) If the C speed is at or above 2400 rpm, exclude the speed and load points to the right of the line formed by connecting the two points in paragraphs (b)(2)(i) and (ii) of this section (the 30% and 50% torque/power points) and below the line formed by connecting the two points in paragraphs (b)(2)(ii) and (iii) of this section (the 50% and 70% torque/power points). The 30%, 50%, and 70% torque/power points are defined as follows:

(i) 30% of maximum power at the B speed; however, use the power value corresponding to the engine operation at 30% of maximum torque at the B speed if this is greater than 30% of maximum power at the B speed.

(ii) 50% of maximum power at 2400 rpm.

(iii) 70% of maximum power at 100% speed.

§ 1039.520 What testing must I perform to establish deterioration factors?

Sections 1039.240 and 1039.245 describe the method for testing that must be performed to establish deterioration factors for an engine family.

§ 1039.525 How do I adjust emission levels to account for infrequently regenerating aftertreatment devices?

This section describes how to adjust emission results from engines using aftertreatment technology with infrequent regeneration events. For this section, “regeneration” means an intended event during which emission levels change while the system restores aftertreatment performance. For example, exhaust gas temperatures may increase temporarily to remove sulfur from adsorbers or to oxidize accumulated particulate matter in a trap. For this section, “infrequent” refers to regeneration events that are expected to