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# 40 C.F.R. § 1036.530

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## Test procedures for off-cycle testing.

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(a) *General.* This section describes the measurement and calculation procedures to perform field testing and determine whether tested engines and engine families meet emission standards under subpart E of this part. Calculate mass emission rates as specified in 40 CFR part 1065, subpart G. Use good engineering judgment to adapt these procedures for simulating vehicle operation in the laboratory.

(b) *Vehicle preparation and measurement procedures.* (1) Set up the vehicle for testing with a portable emissions measurement system (PEMS) as specified in 40 CFR part 1065, subpart J.

(2) Begin emission sampling and data collection as described in 40 CFR 1065.935(c)(3) before starting the engine at the beginning of the shift-day. Start the engine only after confirming that engine coolant temperature is at or below 40 °C.

(3) Measure emissions over one or more shift-days as specified in subpart E of this part.

(4) For engines subject to compression-ignition standards, record 1 Hz measurements of ambient temperature near the vehicle.

(c) *Test Intervals.* Determine the test intervals as follows:

(1) *Spark-ignition.* Create a single test interval that covers the entire shift-day for engines subject to spark-ignition standards. The test interval starts with the first pair of consecutive data points with no exclusions as described in paragraph (c)(3) of this section after the start of the shift-day and ends with the last pair of consecutive data points with no exclusions before the end of the shift day.

(2) *Compression-ignition.* Create a series of 300 second test intervals for engines subject to compression-ignition standards (moving-average windows) as follows:

(i) Begin and end each test interval with a pair of consecutive data points with no exclusions as described in paragraph (c)(3) of this section. Select the last data point of each test interval such that the test interval includes 300 seconds of data with no exclusions, as described in paragraph (d) of this section. The test interval may be a fraction of a second more or less than 300 seconds to account for the precision of the time stamp in recording 1 Hz data. A test interval may include up to 599 seconds of data with continuous exclusions; invalidate any test interval that includes at least 600 seconds of continuous sampling with excluded data.

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