§ 1066.10 Other procedures.

(a) Your testing. The procedures in this part apply for all testing you do to show compliance with emission standards, with certain exceptions listed in this section. In some other sections in this part, we allow you to use other procedures (such as less precise or less accurate procedures) if they do not affect your ability to show that your vehicles comply with the applicable emission standards. This generally requires emission levels to be far enough below the applicable emission standards so that any errors caused by greater imprecision or inaccuracy do not affect your ability to state unconditionally that the engines meet all applicable emission standards.

(b) Our testing. These procedures generally apply for testing that we do to determine if your vehicles comply with applicable emission standards. We may perform other testing as allowed by the Act.

(c) Exceptions. We may allow or require you to use procedures other than those specified in this part for laboratory testing, field testing, or both, as described in 40 CFR 1065.10(c). All the test procedures noted as exceptions to the specified procedures are considered generically as “other procedures.” Note that the terms “special procedures” and “alternate procedures” have specific meanings; “special procedures” are those allowed by 40 CFR 1065.10(c)(2) and “alternate procedures” are those allowed by 40 CFR 1065.10(c)(7). If we require you to request approval to use other procedures under this paragraph (c), you may not use them until we approve your request.

§ 1066.15 Overview of test procedures.

This section outlines the procedures to test vehicles that are subject to emission standards.

(a) In the standard-setting part, we set emission standards in g/mile (or g/km), for the following constituents:
   (1) Total oxides of nitrogen, NOx.
   (2) Hydrocarbons (HC), which may be expressed in the following ways:
      (i) Total hydrocarbons, THC.
      (ii) Nonmethane hydrocarbons, NMHC, which result from subtracting methane (CH4) from THC.
      (iii) Total hydrocarbon-equivalent, THCE, which results from adjusting THC mathematically to be equivalent on a carbon-mass basis.
      (iv) Nonmethane hydrocarbon-equivalent, NMHCE, which results from adjusting NMHC mathematically to be equivalent on a carbon-mass basis.

   (3) Particulate mass, PM.
   (4) Carbon monoxide, CO.

(b) Note that some vehicles may not be subject to standards for all the emission constituents identified in paragraph (a) of this section.

(c) We generally set emission standards over test intervals and/or drive schedules, as follows:
   (1) Vehicle operation. Testing may involve measuring emissions and miles travelled in a laboratory-type environment or in the field. The standard-setting part specifies how test intervals are defined for field testing. Refer to the definitions of “duty cycle” and “test interval” in §1066.701. Note that a single drive schedule may have multiple test intervals and require weighting of results from multiple test phases to calculate a composite distance-based emission value to compare to the standard.

   (2) Constituent determination. Determine the total mass of each constituent over a test interval by selecting from the following methods:
      (i) Continuous sampling. In continuous sampling, measure the constituent’s concentration continuously from raw or dilute exhaust. Multiply this concentration by the continuous (raw or dilute) flow rate at the emission sampling location to determine the constituent’s flow rate. Sum the constituent’s flow rate continuously over the test interval. This sum is the total mass of the emitted constituent.
      (ii) Batch sampling. In batch sampling, continuously extract and store a sample of raw or dilute exhaust for later measurement. Extract a sample proportional to the raw or dilute exhaust flow rate, as applicable. You may extract and store a proportional sample of exhaust in an appropriate container, such as a bag, and then measure HC, CO, and NOx concentrations in the container after the test phase. You may deposit PM from proportionally extracted exhaust onto an appropriate