7011.1325 PERFORMANCE TEST PROCEDURES.

Subpart 1. **In general.**   Performance tests shall be conducted according to the requirements of this part and parts 7017.2001 to 7017.2060.

Subp. 2. **Sampling time for Method 5.** For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the agency.

Subp. 3. **Dry sludge charging rate.** Dry sludge charging rate shall be determined as follows:

A. Determine the mass (S_m) or volume (S_v) of sludge charged to the incinerator during each run using a flow measuring device meeting the requirements of part 7011.1315, item A. If total input during a run is measured by a flow measuring device, such readings shall be used. Otherwise, record the flow measuring device readings at five-minute intervals during a run. Determine the quantity charged during each interval by averaging the flow rates at the beginning and end of the interval and then multiplying the average for each interval by the time for each interval. Then add the quantity for each interval to determine the total quantity charged during the entire run, (S_m) or (S_v).

B. Collect samples of the sludge charged to the incinerator in nonporous collecting jars at the beginning of each run and at approximately one-hour intervals thereafter until the test ends, and determine for each sample the dry sludge content (total solids residue) in accordance with "224 G. Method for Solid and Semisolid Samples," Standard Methods for the Examination of Water and Wastewater, Thirteenth Edition, American Public Health Association, Inc., New York, N.Y., 1971, pp. 539-41, except that:

(1) evaporating dishes shall be ignited to at least 103 degrees Celsius rather than the 550 degrees Celsius specified in step 3(a)(1);

(2) determination of volatile residue, step 3(b) may be deleted;

(3) the quantity of dry sludge per unit sludge charged shall be determined in terms of either R_{dv} (metric units: mg dry sludge/liter sludge charged or English units: lb/ft^3) or R_{dm} (metric units: mg dry sludge/mg sludge charged or English units: lb/lb).

C. Determine the quantity of dry sludge per unit sludge charged in terms of either R_{dv} or R_{dm}:

(1) If the volume of sludge charged is used:

$$S_d = (60 \times 10^{-3}) \ \frac{R_{dv} S_v}{T} \quad \text{(Metric Units)}$$

or

$$S_d = (8.021) \; \frac{R_{dv} S_v}{T} \qquad \text{(English Units)}$$

where:

S_d = average dry sludge charging rate during the run, kg/hr (English units: lb/hr);

R_{dv} = average quantity of dry sludge per unit volume of sludge charged to the incinerator, mg/1 (English units: lb/ft^3);

S_v = sludge charged to the incinerator during the run, m^3 (English units: gal);

T = duration of run, min (English units: min);

60×10^{-3} = metric units conversion factor, 1-kg-min/m$_3$-mg-hr;

8.021 = English units conversion factor, ft^3-min/gal-hr.

      (2) If the mass of sludge charged is used:

$$S_d = (60) \; \frac{R_{dm} S_m}{T} \qquad \text{(Metric or English Units)}$$

where:

S_d = average dry sludge charging rate during the run, kg/hr (English units: lb/hr);

R_{dm} = average ratio of quantity of dry sludge to quantity of sludge charged to the incinerator, mg/mg (English units: lb/lb);

S_m = sludge charged during the run, kg (English units: lb);

T = duration of run, min (metric or English units);

60 = conversion factor, min/hr (metric or English units).

    Subp. 4. **Particulate emission rate.** Particulate emission rate shall be determined by:

$C_{aw} = C_s Q_3$ (metric or English units)

where:

C_{aw} = Particulate matter mass emissions, mg/hr (English units: lb/hr).

C_s = Particulate matter concentration, mg/m^3 (English units: lb/dscf).

Q_s = Volumetric stack gas flow rate, dscm/hr (English units: dscf/hr). Q_s and c_s shall be determined using methods 2 and 5, respectively.

Subp. 5. **Compliance with standards.** Compliance with part 7011.1310 shall be determined as follows:

$$C_{ds} = (10^{-3}) \frac{C_{aw}}{S_d} \quad \text{(Metric Units)}$$

or

$$C_{ds} = (2000) \frac{C_{aw}}{S_d} \quad \text{(English Units)}$$

where:

C_{ds} = particulate emission discharge, g/kg dry sludge (English units: lb/ton dry sludge).

10^{-3} = Metric conversion factor, g/mg.

2,000 = English conversion factor, lb/ton.

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