

§ 75.81

40 CFR Ch. I (7-1-07 Edition)

unit, either by certified flow rate and diluent (CO₂ or O₂) monitors, by appropriate EPA reference methods under § 75.22, or by approved alternative monitoring systems under subpart E of this part, where heat input is required for allocating allowances under the applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(2) For an owner or operator using a sorbent trap monitoring system to quantify Hg mass emissions, substitute for missing data in accordance with the missing data procedures in § 75.39.

(g) *Reporting data prior to initial certification.* If, by the applicable compliance date under the State or Federal Hg mass emission reduction program that adopts the requirements of this subpart, the owner or operator of an affected unit has not successfully completed all required certification tests for any monitoring system(s), he or she shall determine, record and report hourly data prior to initial certification using one of the following procedures, for the monitoring system(s) that are uncertified:

(1) For Hg concentration and flow monitoring systems, report the maximum potential concentration of Hg as defined in section 2.1.7 of appendix A to this part and the maximum potential flow rate, as defined in section 2.1.4.1 of appendix A to this part; or

(2) For any unit, report data from the reference methods under § 75.22; or

(3) For any unit that is required to report heat input for purposes of allocating allowances, report (as applicable) the maximum potential flow rate, as defined in section 2.1.4.1 of appendix A to this part, the maximum potential CO₂ concentration, as defined in section 2.1.3.1 of appendix A to this part, the minimum potential O₂ concentration, as defined in section 2.1.3.2 of appendix A to this part, and the minimum potential percent moisture, as defined in section 2.1.5 of appendix A to this part.

(h) *Petitions.* (1) The designated representative of an affected unit that is also subject to the Acid Rain Program may submit a petition to the Administrator requesting an alternative to any requirement of this subpart. Such a petition shall meet the requirements of

§ 75.66 and any additional requirements established by the applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart. Use of an alternative to any requirement of this subpart is in accordance with this subpart and with such State or Federal Hg mass emission reduction program only to the extent that the petition is approved in writing by the Administrator, in consultation with the permitting authority.

(2) Notwithstanding paragraph (h)(1) of this section, petitions requesting an alternative to a requirement concerning any additional CEMS required solely to meet the common stack provisions of § 75.82 shall be submitted to the permitting authority and the Administrator and shall be governed by paragraph (h)(3) of this section. Such a petition shall meet the requirements of § 75.66 and any additional requirements established by an applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(3) The designated representative of an affected unit that is not subject to the Acid Rain Program may submit a petition to the permitting authority and the Administrator requesting an alternative to any requirement of this subpart. Such a petition shall meet the requirements of § 75.66 and any additional requirements established by the applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart. Use of an alternative to any requirement of this subpart is in accordance with this subpart only to the extent that it is approved in writing by the Administrator, in consultation with the permitting authority.

§ 75.81 Monitoring of Hg mass emissions and heat input at the unit level.

The owner or operator of the affected coal-fired unit shall either:

(a) Meet the general operating requirements in § 75.10 for the following continuous emission monitors (except as provided in accordance with subpart E of this part):

Environmental Protection Agency

§ 75.81

(1) A Hg concentration monitoring system (as defined in § 72.2 of this chapter) or a sorbent trap monitoring system (as defined in § 72.2 of this chapter) to measure Hg concentration; and

(2) A flow monitoring system; and

(3) A continuous moisture monitoring system (if correction of Hg concentration for moisture is required), as described in § 75.11(b) or § 75.12(b). Alternatively, the owner or operator may use the appropriate fuel-specific default moisture value provided in § 75.11 or § 75.12, or a site-specific moisture value approved by petition under § 75.66; and

(4) If heat input is required to be reported under the applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart, the owner or operator also must meet the general operating requirements for a flow monitoring system and an O₂ or CO₂ monitor to measure heat input rate; or

(b) For an affected unit that emits 464 ounces (29 lb) of Hg per year or less, use the following excepted monitoring methodology. To implement this methodology for a qualifying unit, the owner or operator shall meet the general operating requirements in § 75.10 for the continuous emission monitors described in paragraphs (a)(2) and (a)(4) of this section, and perform Hg emission testing for initial certification and on-going quality-assurance, as described in paragraphs (c) through (e) of this section.

(c) To determine whether an affected unit is eligible to use the monitoring provisions in paragraph (b) of this section:

(1) The owner or operator must perform Hg emission testing prior to the compliance date in § 75.80(b), to determine the Hg concentration (*i.e.*, total vapor phase Hg) in the effluent. The testing shall be performed using one of the Hg reference methods listed in § 75.22, and shall consist of a minimum of 3 runs at the normal unit operating load. The minimum time per run shall be 1 hour if an instrumental reference method is used. If the Ontario Hydro Method is used, the test runs must be long enough to ensure that sufficient Hg is collected to analyze. If the unit is equipped with flue gas desulfurization

or add-on Hg emission controls, the controls must be operating normally during the testing, and, for the purpose of establishing proper operation of the controls, the owner or operator shall record parametric data or SO₂ concentration data in accordance with § 75.58(b)(3)(i).

(2) Based on the results of the emission testing, Equation 1 of this section shall be used to provide a conservative estimate of the annual Hg mass emissions from the unit:

Where:

E = Estimated annual Hg mass emissions from the affected unit, (ounces/year)

K = Units conversion constant, 9.978×10^{-10} oz-scm/ μ gm-scf

8760 = Number of hours in a year

C_{Hg} = The highest Hg concentration (μ gm/scm) from any of the test runs or 0.50 μ gm/scm, whichever is greater

Q_{max} = Maximum potential flow rate, determined according to section 2.1.4.1 of appendix A to this part, (scfh)

Equation 1 of this section assumes that the unit operates year-round at its maximum potential flow rate. Also, note that if the highest Hg concentration measured in any test run is less than 0.50 μ gm/scm, a default value of 0.50 μ gm/scm must be used in the calculations.

(3) If the estimated annual Hg mass emissions from paragraph (c)(2) of this section are 464 ounces per year or less, then the unit is eligible to use the monitoring provisions in paragraph (b) of this section, and continuous monitoring of the Hg concentration is not required (except as otherwise provided in paragraphs (e) and (f) of this section).

(d) If the owner or operator of an eligible unit under paragraph (c)(3) of this section elects not to continuously monitor Hg concentration, then the following requirements must be met:

(1) The results of the Hg emission testing performed under paragraph (c) of this section shall be submitted as a certification application to the Administrator and to the permitting authority, no later than 45 days after the testing is completed. The calculations demonstrating that the unit emits 464 ounces (or less) per year of Hg shall also be provided, and the default Hg concentration that will be used for reporting under § 75.84 shall be specified

§ 75.81**40 CFR Ch. I (7-1-07 Edition)**

in both the electronic and hard copy portions of the monitoring plan for the unit. The methodology is considered to be provisionally certified as of the date and hour of completion of the Hg emission testing.

$$E = 8760 K C_{\text{Hg}} Q_{\text{max}} \quad (\text{Eq. 1})$$

(2) Following initial certification, the same default Hg concentration value that was used to estimate the unit's annual Hg mass emissions under paragraph (c) of this section shall be reported for each unit operating hour, except as otherwise provided in paragraph (d)(6) of this section. The default Hg concentration value shall be updated as appropriate, according to paragraph (d)(5) of this section.

(3) The hourly Hg mass emissions shall be calculated according to section 9.1.3 in appendix F to this part.

(4) The Hg emission testing described in paragraph (c) of this section shall be repeated periodically, for the purposes of quality-assurance, as follows:

(i) If the results of the certification testing under paragraph (c) of this section show that the unit emits 144 ounces (9 lb) of Hg per year or less, the first retest is required by the end of the fourth QA operating quarter (as defined in § 72.2 of this chapter) following the calendar quarter of the certification testing; or

(ii) If the results of the certification testing under paragraph (c) of this section show that the unit emits more than 144 ounces of Hg per year, but less than or equal to 464 ounces per year, the first retest is required by the end of the second QA operating quarter (as defined in § 72.2 of this chapter) following the calendar quarter of the certification testing; and

(iii) Thereafter, retesting shall be required either semiannually or annually (*i.e.*, by the end of the second or fourth QA operating quarter following the quarter of the previous test), depending on the results of the previous test. To determine whether the next retest is due within two or four QA operating quarters, substitute the highest Hg concentration from the current test or 0.50 µgm/scm (whichever is greater) into the equation in paragraph (c)(2) of this section. If the estimated annual Hg mass emissions exceeds 144 ounces,

the next test is due within two QA operating quarters. If the estimated annual Hg mass emissions is 144 ounces or less, the next test is due within four QA operating quarters.

(5) The default Hg concentration used for reporting under § 75.84 shall be updated after each required retest. The updated value shall either be the highest Hg concentration measured in any of the test runs or 0.50 µgm/scm, whichever is greater. The updated default value shall be applied beginning with the first unit operating hour after completion of the retest.

(6) If the unit is equipped with a flue gas desulfurization system or add-on Hg controls, the owner or operator shall record the information required under § 75.58(b)(3) for each unit operating hour, to document proper operation of the emission controls. For any operating hour in which this documentation is unavailable, the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part, shall be reported.

(e) For units with common stack and multiple stack exhaust configurations, the use of the monitoring methodology described in paragraphs (b) through (d) of this section is restricted as follows:

(1) The methodology may not be used for reporting Hg mass emissions at a common stack unless all of the units using the common stack are affected units and each individual unit is demonstrated to emit 464 ounces of Hg per year, or less, in accordance with paragraphs (c) and (d) of this section. If these conditions are met, the default Hg concentration used for reporting at the common stack shall either be the highest value obtained in any test run for any of the units serving the common stack or 0.50 µgm/scm, whichever is greater.

(2) For units with multiple stack or duct configurations, Hg emission testing must be performed separately on each stack or duct, and the sum of the estimated annual Hg mass emissions from the stacks or ducts must not exceed 464 ounces of Hg per year. For reporting purposes, the default Hg concentration used for each stack or duct shall either be the highest value obtained in any test run for that stack or 0.50 µgm/scm, whichever is greater.

(3) For units with a main stack and bypass stack configuration, Hg emission testing shall be performed only on the main stack. For reporting purposes, the default Hg concentration used for the main stack shall either be the highest value obtained in any test run for that stack or 0.50 µg/m³, whichever is greater. Whenever the main stack is bypassed, the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part, shall be reported.

(f) At the end of each calendar year, if the cumulative annual Hg mass emissions from an affected unit have exceeded 464 ounces, then the owner shall install, certify, operate, and maintain a Hg concentration monitoring system or a sorbent trap monitoring system no later than 180 days after the end of the calendar year in which the annual Hg mass emissions exceeded 464 ounces. For common stack and multiple stack configurations, installation and certification of a Hg concentration or sorbent trap monitoring system on each stack (except for bypass stacks) is likewise required within 180 days after the end of the calendar year, if:

(1) The annual Hg mass emissions at the common stack have exceeded 464 ounces times the number of affected units using the common stack; or

(2) The sum of the annual Hg mass emissions from all of the multiple stacks or ducts has exceeded 464 ounces; or

(3) The sum of the annual Hg mass emissions from the main and bypass stacks has exceeded 464 ounces.

(g) For an affected unit that is using a Hg concentration CEMS or a sorbent trap system under § 75.81(a) to continuously monitor the Hg mass emissions, the owner or operator may switch to the methodology in § 75.81(b), provided that the applicable conditions in paragraphs (c) through (f) of this section are met.

§ 75.82 Monitoring of Hg mass emissions and heat input at common and multiple stacks.

(a) *Unit utilizing common stack with other affected unit(s).* When an affected unit utilizes a common stack with one or more affected units, but no non-

affected units, the owner or operator shall either:

(1) Install, certify, operate, and maintain the monitoring systems described in § 75.81(a) at the common stack, record the combined Hg mass emissions for the units exhausting to the common stack. Alternatively, if, in accordance with § 75.81(e), each of the units using the common stack is demonstrated to emit less than 464 ounces of Hg per year, the owner or operator may install, certify, operate and maintain the monitoring systems and perform the Hg emission testing described under § 75.81(b). If reporting of the unit heat input rate is required, determine the hourly unit heat input rates either by:

(i) Apportioning the common stack heat input rate to the individual units according to the procedures in § 75.16(e)(3); or

(ii) Installing, certifying, operating, and maintaining a flow monitoring system and diluent monitor in the duct to the common stack from each unit; or

(2) Install, certify, operate, and maintain the monitoring systems and (if applicable) perform the Hg emission testing described in § 75.81(a) or § 75.81(b) in the duct to the common stack from each unit.

(b) *Unit utilizing common stack with nonaffected unit(s).* When one or more affected units utilizes a common stack with one or more nonaffected units, the owner or operator shall either:

(1) Install, certify, operate, and maintain the monitoring systems and (if applicable) perform the Hg emission testing described in § 75.81(a) or § 75.81(b) in the duct to the common stack from each affected unit; or

(2) Install, certify, operate, and maintain the monitoring systems described in § 75.81(a) in the common stack; and

(i) Install, certify, operate, and maintain the monitoring systems and (if applicable) perform the Hg emission testing described in § 75.81(a) or § 75.81(b) in the duct to the common stack from each non-affected unit. The designated representative shall submit a petition to the permitting authority and the Administrator to allow a method of calculating and reporting the Hg mass emissions from the affected units as