WEST VIRGINIA
SECRETARY OF STATE
BETTY IRELAND
ADMINISTRATIVE LAW DIVISION

Form #1

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OFFICE WEST VIRGINIA SECRETARY OF STATE

NOTICE OF A PUBLIC HEARING ON A PROPOSED RULE

AGENCY: WV Department of Environmental Protection, Division of Air Quality TITLE NUMBER: 45

RULE TYPE: Legislative CITE AUTHORITY: W.V. Code §22-5-4

AMENDMENT TO AN EXISTING RULE: YES X NO ____

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 33

TITLE OF RULE BEING AMENDED: Acid Rain Provisions and Permits

IF NO, SERIES NUMBER OF RULE BEING PROPOSED: ____

TITLE OF RULE BEING PROPOSED: ____

DATE OF PUBLIC HEARING: July 18, 2005 TIME: 6:00 p.m.

LOCATION OF PUBLIC HEARING: West Virginia Department of Environmental Protection
Cooper's Rock Conference Room
601 57th Street, S.E.
Charleston, WV 25304

COMMENTS LIMITED TO: ORAL ____, WRITTEN ____, BOTH X

COMMENTS MAY ALSO BE MAILED TO THE FOLLOWING ADDRESS:

John A. Benedict, Director
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, S.E.
Charleston, WV 25304

The Department requests that persons wishing to make comments at the hearing make an effort to submit written comments in order to facilitate the review of these comments.

The issues to be heard shall be limited to the proposed rule.

ATTACH A **BRIEF** SUMMARY OF YOUR PROPOSAL

Stephanie R. Timmermeyer
Authorized Signature
Stephanie R. Timmermeyer, Director

$12.00

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY

BRIEFING DOCUMENT

Rule Title: 45CSR33 - "Acid Rain Provisions and Permits"

A. AUTHORITY: W.Va. Code §22-5-4

B. SUMMARY OF RULE:

This rule establishes and adopts the general provisions and operating permit program requirements for affected sources under the Acid Rain Program promulgated by the United States Environmental Protection Agency (U.S. EPA) under Title IV of the Clean Air Act, as amended (CAA). The rule also adopts associated appendices, reference methods, performance specifications and other test methods which are appended to these provisions. Under the Acid Rain Program and 45CSR33, no person may construct, modify, or operate or cause to be constructed, modified, or operated, an Acid Rain source in violation of 40 CFR Parts 72 through 77.

Title IV of the CAA requires each state to implement an operating permit system conforming to Title IV and Title V of the CAA, as amended. 45CSR33 incorporates by reference the federal counterpart regulation 40 CFR Parts 72 through 77. U.S. EPA approved West Virginia's Acid Rain Program with its approval of the state's Title V Operating Permit Program on December 15, 1995.

This revised rule incorporates by reference the following revisions to 40 CFR Parts 72 through 77 promulgated as of June 1, 2005: Permits Regulation, Sulfur Dioxide Allowance System, Sulfur Dioxide Opt-Ins, Continuous Emission Monitoring, Excess Emissions (CAIR & CAMR).

C. STATEMENT OF CIRCUMSTANCES WHICH REQUIRE RULE:

Promulgation of this rule will enable the Department of Environmental Protection, Division of Air Quality (DAQ) to continue to be the primary enforcement authority for the Acid Rain Program promulgated under 40 CFR Parts 72 through 77 by U.S. EPA as of June 1, 2005. Promulgation of this rule by the Legislature is necessary for the State to fulfill its responsibilities under the CAA, as amended. Revisions to the rule include annual incorporation by reference rule updates, revisions for consistency, and general language clarification.

D. FEDERAL COUNTERPART REGULATIONS - INCORPORATION BY REFERENCE/DETERMINATION OF STRINGENCY:

A federal counterpart to this proposed rule exists. In accordance with the Secretary's recommendation, and with limited exception, the Division of Air Quality proposes that the rule incorporate by reference the federal counterparts. Because the proposed rule incorporates by reference the federal counterpart, no determination of stringency is required.

E. CONSTITUTIONAL TAKINGS DETERMINATION:

In accordance with W.Va. Code §§22-1A-1 and 3(c), the Secretary has determined that this rule will not result in taking of private property within the meaning of the Constitutions of West Virginia and the United States of America.

F. CONSULTATION WITH THE ENVIRONMENTAL PROTECTION ADVISORY COUNCIL:

At its June 8, 2005 meeting, the Environmental Protection Advisory Council reviewed and discussed this proposed rule. The Council's comments are contained in the attached minutes.

West Virginia Department of Environmental Protection

ADVISORY COUNCIL MEETING MINUTES

Wednesday - June 8, 2005
601 57th Street, SE, Charleston, WV
Dolly Sods Conference Room – 1st Floor

ATTENDEES:

Advisory Council Members:
Larry Harris
Jackie Hallinan
Rick Roberts
Lisa Dooley
Bill Raney
Karen Price

DEP:
Stephanie R. Timmermeyer, Cabinet Secretary
Karen G. Watson, Assistant General Counsel
Ken Ellison, Director - Division of Land Restoration
Lisa McClung, Director – Division of Water and Waste Management
John Benedict, Director – Division of Air Quality
Mike Zeto, WVDEP
Charlie Sturey, WVDEP
Jessica Greathouse, Chief Communication Officer – WVDEP – Public Information Office
James Martin, Chief, WVDEP - Office of Oil & Gas
Brett Loflin, WV Oil and Gas Conservation Commission
Dave Bassage- WVDEP
Greg Adolpson – WVDEP
Jim Mason – WVDEP
Fred Durham – WVDEP
Jim Mason – WVDEP
Mike Johnson – WVDEP

VISITORS:

Linda Tennant, Spilman, Thomas, Battle
Don Garvin – WVEC
Bob Asplund - Dominion

Karen Watson, WVDEP – Assistant General Counsel, called the meeting to order at 10:00 a.m.

Proposed rules for the 2006 legislative session are as follows:

- **45CSR1 "Control and Reduction of Nitrogen Oxides from Non-Electric Generating Units as a Means to Mitigate Transport of Ozone Precursors"**

  This rule partially fulfills the State's obligations in response to U.S. EPA's final rule, *Findings of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group region for Purposes of Reducing Regional Transport of Ozone* 27 Oct 1998, herein referred to as the *NO_x SIP Call*). Essentially, the federal rule requires that large emitters of Nitrogen Oxides (NO_x) significantly reduce emissions and constrains them to set budgets, starting in 2004 and maintaining them thereafter. Flexibility is built in through market-based "cap and trade" provisions which allow sources to buy/sell NO_x emission allowances from /to other program participants. For example, a source which has emitted NO_x in excess of its NO_x allowance allocation may purchase NO_x allowances under the federal NO_x Budget Trading Program to obtain the needed NO_x emission allowances to cover its actual NO_x emissions during an ozone season. Conversely, a source which emits fewer tons of NO_x than its NO_x allowance allocation may either bank or sell (trade) the excess NO_x allowances to another sources which needs them to cover its excess NO_x emissions.

  45CSR1 applies to large fossil fuel-fired stationary sources (large industrial boilers) with heat inputs greater than 250 mmBtu/hr. The Department of Environmental Protection, Division of Air Quality (DAQ) addresses Electric Generation Units (EGUs) in a separate rulemaking, 45CSR26. 45CSR1 also applies to large cement kilns and internal combustion engines which emitted more than one ton per day of NO_x from May 1 through September 30, 1995, although these sources are not subject to the NO_x Budget Trading Program.

  Comments:

  How will this relate to the new rule 40?

  Rule 40 will repeal Rule 1 in 2009.

  Are these kinds of trading effective in lowering NO_x emission?

  Yes, West Virginia has dropped from one of the highest to one of the lowest states.

  If one is testing, how do you see which sources account for improvement?

  Have CEMS on stacks so we can analyze data.

- **45CSR15 – "Emission Standards for Hazardous Air Pollutants Pursuant to 40CFR Part 61"**

  This rule establishes and adopts national emission standards for hazardous air pollutant (NESHAPO) and other regulatory requirements promulgated by the United States Environmental Protection Agency (USEPA) pursuant to 40CFR part 61 and section 112 of the federal clean Air Act, as amended (CAA). This rule codifies general procedures and

criteria to implement emission standards for stationary sources that emit (or have the potential to emit) one or more to the eight substances listed as hazardous air pollutants in 40 CFR §61.01(a). The rule incorporated by reference the NESHAP standards of 40 CFR Parts 61 and 65 (consolidated Federal Air Rule), to the extent referenced in 40CFR part 61, promulgated as of June 1, 2005. The rule also adopts associated appendices, reference methods, performance specifications and other test methods which are appended to these standards and contained in 40 CSR parts 61 and 65. Any person who constructs, reconstructs, modifies or operates any source subject to the provisions of 40 CFR Part 61 must comply with the applicable NESHAPS and this rule.

45CSR15, in conjunction with 45CSR34, establishes general provisions for emission standards for hazardous air pollutants (NESHAP) and other regulatory requirements promulgated by USEPA pursuant to section 112 of the federal Clean Air Act, as amended. 45CSR34 incorporates hazardous air pollutant standards codified by USEPA under 40CFR part 63 whereas 45CSR15, incorporates hazardous air pollutant standards promulgated by USEPA under 40 CFR Part 61.

This revised rule incorporates by reference the following new or revised NESHAP standards promulgated as of June 1, 2005: National Emission Standards for Hazardous Air Pollutants for Asbestos.

No Comments

- **45CSR16 – "Standards of Performance for New Stationary Sources Pursuant to 40CFR Part 60"**

This rule establishes and adopts national standards of performance for new stationary sources and other regulatory requirements promulgated by the United States Environmental Protection Agency (USEPA) pursuant to section 111(b) of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement standards of performance for new stationary sources set forth in 40 CFR Part 60. The rule incorporates by reference New Sources Performance Standards (NSPS) promulgated as of June 1, 2005. The rule also adopts associated appendices, reference methods, performance specifications and other test methods which are appended to such standards. Any person who constructs, modifies, reconstructs or operates an affected facility after the effective date of any NSPS under 40 CFR Part 60 must comply with the applicable NSPS and this rule.

This revised rule incorporates by reference the following new or revised NSPS standards promulgated as of July 1, 2005: Standards of performance for Industrial-Commercial-Institutional Steam Generating units; Stationary Gas Turbines: Steel Plants; and new and Existing Stationary Sources: Electric Utility Steam Generating Units (CAMR).

No Comments

- **45CSR25 – "To Prevent and Control Air Pollution from Hazardous Waste Treatment Storage or Disposal Facilities."**

  This rule establishes and adopts national standards of performance for new stationary sources and other regulatory requirements promulgated by the United States Environmental Protection Agency (USEPA) pursuant to the Resource Conservation and Recovery Act, as amended (RCRA). This rule codifies general procedures and criteria to implement emission standards set forth in the Code of Federal Regulations as listed in Table 25-A of the rule. The rule also adopts associated appendices, reference methods, performance specifications and other test methods, which are appended to these standards. Any person, who constructs, reconstructs, modifies or operates any hazardous waste treatment, storage, or disposal facility must comply with the West Virginia Hazardous Waste management Program, the codified federal emission standards, and this rule.

  45CSR25 establishes a program of regulation over the treatment, storage, and disposal of hazardous wastes in order to achieve and maintain such levels of air quality as will protect the public health and safety and the environment from the effects of improper, inadequate, or unsound treatment, storage, or disposal of hazardous wastes.

  This revised rule incorporates by reference the following provisions of 40 CFR Part 262 promulgated as of June 1, 2005: National Environmental Performance Track Program.

  Comments:

  What does the term "constituents" mean and how does one decide whether a source has prevented emissions that would cause harm under section 1.1.b of the rule?

  > *Look at the definition of "hazardous waste" and prevention language is meant to set forth overall purpose of the rule.*

  Does the agency consult with DHHR or other public health officials?

  > *No, the agency uses a risk-based approach and has a toxicologist employed. It also looks to EPA.*

- **45CSR33 – "Acid Rain Provisions and Permits"**

  This rule establishes and adopts the general provisions and operating permit program requirements for affected sources under the Acid Rain Program promulgated by the4 United States Environmental Protection Agency (USEPA) undertitle IV of the Clean Air Act, as amended (CAA). The rule also adopts associated appendices, reference methods, performance specifications and other test methods which are appended to these provisions. Under the Acid Rain Program and 45CSR33, no person may construct, modify, or operate or

cause to be constructed, modified, or operated, an Acid Rain Source in violation of 40CFR Parts 72 through 77.
Title IV of the CAA requires each state to implement an operating permit system conforming to Title IV and Title V of the CAA, as amended. 45CSR33 incorporates by reference the federal counterpart regulation 40 CFR Parts 72 through 77. USEPA approved West Virginia's Acid Rain Program with its approval of the state's Title V Operating Permit Program on December 15, 1995.

This revised rule incorporates by reference the following revisions to 40CFR Parts 72 through 77 promulgated as of June 1, 2005: Permits Regulation, Sulfur Dioxide Allowance System, Sulfur Dioxide Opt-Ins, continuous Emission Monitoring, Excess Emissions (CAIR & CAMR).

No Comments

- **45CSR34 – "Emission Standards for Hazardous Air Pollutants For Source Categories Pursuant to 40 CFR Part 63**

This rule establishes and adopts national emission standards for hazardous air pollutants (NESHAP) and other regulatory requirements promulgated by the United States Environmental Protection Agency (U.S. EPA) pursuant to section 112 of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement emission standards for stationary sources that emit, or have the potential to emit, one or more of the hazardous air pollutants set forth in section 112(b) of the CAA. The rule incorporates by reference the NESHAP standards of 40 CFR Parts 63 and 65 (Consolidated Federal Air Rule), to the extent referenced in 40 CFR Part 63, promulgated as of June 1, 2005. The rule also adopts associated appendices, reference methods, performance specifications and other test methods which are appended to these standards and contained in 40 CFR Parts 63 and 65. Any person who constructs, reconstructs, modifies or operates any source subject to the provisions of 40 CFR Part 63 must comply with the applicable NESHAPS and this rule.

45CSR34, in conjunction with 45CSR15, establishes general provisions for emission standards for hazardous air pollutants and other regulatory requirements promulgated by U.S. EPA pursuant to section 112 of the federal Clean Air Act, as amended. 45CSR34 incorporates hazardous air pollutant standards codified by U.S. EPA under 40 CFR Part 63 whereas 45CSR15 incorporates hazardous air pollutant standards promulgated by U.S. EPA under 40 CFR Part 61.

This revised rule incorporates by reference the following new or revised NESHAP standards promulgated as of June 1, 2005: National Environmental Performance Track Program, National Emission Standards for Hazardous Air Pollutants for Source Categories, Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, Plywood & Composite Wood Products; Effluent Limitations Guidelines and Standards for Timber Products Point Source Category; List of HAPs, Lesser Quantity Designations, Source Category List, Printing, Coating & Dyeing of Fabrics and Other Textiles, Stationary Combustion Turbines, Solvent Extraction for Vegetable Oil Production, Industrial,

Commercial, Institutional Boilers and Process Heaters, Secondary Aluminum Production, Coke Ovens: Pushing, Quenching, and Battery Stacks, List of Hazardous Air Pollutants, Petition Process, Lesser Quantity Designations, Source Category List; Petition to Delist of Ethylene Glycol Monobutyl Ether, Organic Hazardous Air Pollutants from Synthetic Organic Chemical Manufacturing Industry and Other Processes Subject to the Negotiated Regulation for Equipments Leaks, Coke Ovens: Pushing, Quenching, and Battery Stacks, Leather Finishing Operations, Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units, Revision of December 2000 Regulatory Finding on the Emissions of HAPs from Electric Utility Steam Generating Units & Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units from Section 112(c) List, Generic MACT; Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations, Coke Oven Batteries, Miscellaneous Coating Manufacturing, Pharmaceuticals Production, Asphalt Processing & Asphalt Roofing Manufacturing and Iron and Steel Foundries.

No Comments

- **45CSR37 – "Mercury Budget Trading Program to Reduce Mercury Emissions"**

This rule establishes the general provisions and designated representative, permitting, allowance and monitoring provisions for the Mercury (Hg) Budget Trading Program, as a means of reducing national mercury emissions, pursuant to the federal Clean Air Mercury Rule (CAMR) established under Section 111 of the Clean Air Act (CAA) and 40 CFR 60, Subpart HHHH.

This rule partially fulfills the State's obligations in response to the United States Environmental Protection Agency's (U.S. EPA) final rule, *Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units* (15 March 2005, at FR XXXXX). The federal rule establishes standards of performance for mercury (Hg) for new and existing coal-fired electric utility steam generating units (utility units). This rule establishes a mechanism by which Hg emissions from new and existing coal-fired utility units are capped at specific nation-wide levels. U.S. EPA has specified that annual Hg emission reductions be implemented in two phases. The first phase of Hg reductions starts in 2010 and the second phase begins in 2018, and continues thereafter. Flexibility is built in through market-based "cap and trade" provisions which allow sources to buy or sell Hg emission allowances from or to other program participants.

45CSR37 applies to coal-fired electric utility steam generating units that have greater than 25 MW_e generating capacity.

Comments:

How will this affect Industrial boilers?

The rule does not cover these sources.

What kind of monitoring is required?

Have to install CEMS.

What happens when there is litigation?

If court remands, we would withdraw the rule.

Does the rule apply to natural gas-fired units?

No, only coal-fired.

Does the rule establish new fees?

No.

John Benedict informed the Council of the following reductions:

Nationally

2010 – 22%
2018 – 69%

WV:

2010 – 43%
2018 – 77%

- **45CSR39 – "Control of Annual Nitrogen Oxide Emissions to Mitigate Interstate Transport of Fine Particulate Matter and Nitrogen Oxides"**

This rule establishes general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the state CAIR NO_X Annual Trading Program pursuant to the federal Clean Air Interstate Rule (CAIR) under Section 110 of the Clean Air Act (CAA), 40 CFR Part 96, Subparts AA through II, and 40 CFR §51.123 for state implementation plans as a means of mitigating interstate transport of fine particulates and nitrogen oxides (NO_X).

This rule partially fulfills the State's obligations in response to the United States Environmental Protection Agency's (U.S. EPA) final rule, *Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO_X SIP Call* (12 May 2005, at FR 25162). The federal rule requires that large emitters of NO_X reduce annual emissions through the constraint of set

budgets. U.S. EPA is specifying that annual NO_X emission reductions be implemented in two phases. The first phase of NO_X reductions starts in 2009; the second phase starts in 2015, and continues thereafter. The NO_X emission reduction requirements are based on controls that are known to be highly cost effective for electric generating units. Flexibility is built in through market-based "cap and trade" provisions which allow sources to buy or sell NO_X emission allowances from or to other program participants. Reducing upwind NO_X emissions will assist downwind $PM_{2.5}$ and 8-hour ozone nonattainment areas in achieving the National Ambient Air Quality Standards (NAAQS).

45CSR39 applies to large fossil fuel-fired electric generating units that have greater than 25 MW_e generating capacity. The CAIR NO_X Ozone Season Trading Program requirements are set forth in 45CSR40.

Comments:

How will this affect industrial boilers?

It will not. It only affects electric utilities.

Is there a set-aside provision?

Yes.

Agency should consider using the money to clean up streams impacted by acid rain.

- **45CSR40 – "Control of Ozone Season Nitogen Oxide Emissions to Mitigate Interstate Transport of Ozone and Nit5rogen Oxides"**

This rule establishes the general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the state CAIR NO_X Ozone Season Trading Program pursuant to the federal Clean Air Interstate Rule (CAIR) under Section 110 of the Clean Air Act (CAA), 40 CFR Part 96, Subparts AAAA through IIII, and 40 CFR §51.123 for state implementation plans as a means of mitigating interstate transport of ozone and nitrogen oxides (NO_X).

This rule partially fulfills the State's obligations in response to the United States Environmental Protection Agency's (U.S. EPA) final rule, *Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO_X SIP Call* (12 May 2005, at FR 25162). The federal rule requires that large emitters of NO_X reduce ozone season emissions through the constraint of set budgets. U.S. EPA is specifying that ozone season NO_X emission reductions be implemented in two phases. The first phase of ozone season NO_X reductions starts in 2009; the second phase starts in 2015, and continues thereafter. The NO_X emission reduction requirements are based on controls that are known to be highly cost effective for electric generating units and large industrial boilers. Flexibility is built in through market-

based "cap and trade" provisions which allow sources to buy or sell NO_X emission allowances from or to other program participants. Reducing upwind ozone season NO_X emissions will assist downwind 8-hour ozone nonattainment areas in achieving the National Ambient Air Quality Standards (NAAQS).

Because CAIR subsumes the ozone season NO_X SIP Call trading program, existing NO_X SIP Call rules 45CSR1 and 45CSR26 and their ozone season NO_X reduction provisions must be "sunsetted" by January 1, 2009. Therefore, 45CSR40 contains a repeal clause which effectively "sunsets" these rules, meeting the approvability requirement for implementing CAIR.

45CSR40 applies to large fossil fuel-fired electric generating units that have greater than 25 MW_e generating capacity and large fossil fuel-fired industrial boilers with a heat input greater than 250 mmBtu/hr. This rule also applies to affected cement kilns and internal combustion engines, by retaining the NO_X SIP Call ozone season NO_X emission reduction requirements for these sources from 45CSR1. These existing requirements do not provide for inclusion in any cap and trade program for cement kilns and internal combustion engines. The CAIR NO_X Annual Trading Program requirements are set forth in 45CSR39.

No Comments.

- **33CSR41 – "Control of Annual Sulfur Dioxide Emissions to Mitigate Interstate Transport of Fine Particulate Matter and Sulfur Dioxide"**

This rule establishes general provisions and the designated representative, permitting, allowance, monitoring, and opt-in provisions for the state CAIR SO_2 Trading Program pursuant to the federal Clean Air Interstate Rule (CAIR) under Section 110 of the Clean Air Act (CAA), 40 CFR Part 96, Subparts AAA through III, and 40 CFR §51.124 for state implementation plans as a means of mitigating interstate transport of fine particulates and sulfur dioxide (SO_2).

This rule partially fulfills the State's obligations in response to the United States Environmental Protection Agency's (U.S. EPA) final rule, *Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO_X SIP Call* (12 May 2005, at FR 25162). The federal rule requires that large emitters of SO_2 reduce annual emissions based upon the implementation of retirement ratios for SO_2 allowances allocated under the Acid Rain Program. U.S. EPA is specifying that annual SO_2 emission reductions be implemented in two phases. The first phase of SO_2 reductions starts in 2010 and requires retiring SO_2 allowances at a 2:1 ratio; the second phase starts in 2015 and requires retiring SO_2 allowances at a 2.86:1 ratio, and continues thereafter. The SO_2 emissions reductions requirements are based on controls that are known to be highly cost effective for electric generating units. Flexibility is built in through market-based "cap and trade" provisions which allow sources to buy or sell SO_2 emission allowances from or to other program participants. Reducing upwind SO_2 emissions will assist downwind $PM_{2.5}$ and 8-hour ozone nonattainment

areas in achieving the National Ambient Air Quality Standards (NAAQS).

45CSR41 applies to large fossil fuel-fired electric generating units that have greater than 25 MW_e generating capacity.

How was the fiscal note derived?

It is based on how many persons will be necessary to implement the rule.

When will these rules be filed with EPA?

September of 2006 for the CAIR rules and November 2006 for the mercury rule.

- **33CSR1 – "Solid Waste Management Rule"**

This legislative rule establishes requirements for the siting (including location standards), financial assurance, installation, establishment, construction, design, groundwater monitoring, modification, operation, permitting, closure and post-closure care of any solid waste facility that processes, recycles, composts, transfers or disposes of solid waste pursuant to W. Va. Code §22-15-1 et seq. The rule revision will clarify that the State Division of Highways is subject to an exemption from permitting for its construction/demolition wastes associated with highway construction. The rule will also clarify that the beneficial reuse of clean bituminous concrete (asphalt) is not subject to permitting requirements, just as the beneficial reuse of Portland cement is not subject to permitting.

Comments:

Has the agency worked with the Division of Highways on the rule?

Yes.

- **33-CSR20 – "Hazardous Waste Management"**

The purpose of this rule is to provide for the regulation of the generation, treatment, storage, and disposal of hazardous waste to the extent necessary for the protection of the public health and safety and the environment. The rule changes pick up two new federal regulations.

No Comments.

- **35CSR3 – "Coalbed Methane Wells Rule"**

This rule applies to coalbed methane wells. The rule changes are necessary to conform to recent statutory revisions related to spacing. The changes also address new technology allowing for the horizontal drilling of wells.

Comments:

Are operators required to sample both water quality and quantity?

Just quality.

A question was raised about the 100' and 1000' distance requirements from water wells and the agency explained how these provisions work.

A comment was made that landowners are confused by the rule's requirements and some further explanations would be helpful.

- **39CSR1 – "Rules of the Commission"**

The rule is designed to prevent waste, protect correlative rights and to conserve oil and gas in the State of West Virignia and is applicable to all activities subject to the jurisdiction of the Oil and Gas Conservation Commission. Where special field rules apply, the special field rules shall govern to the extent of any conflict. The rule changes are to clarify the agency can enter consent agreements and establish escrow accounts.

No comments.

- **60CSR8 "Environmental Excellence Program Rule"**

This legislative rule establishes the eligibility, procedures, standards and legal documents required for establishing a voluntary environmental excellence program, consisting of incentives to reward facilities that go beyond regulatory requirements.

Comments:

Will the reports that are filed be shared with the public?

Yes, they will be posted on the internet.

Will people pay the $1000 fee?

From pre-comments, most are willing to pay some amount. The administrative fund will cover the agency's operating costs.

A comment was made that there should be more programs like this, where companies are rewarded for good performance.

Lisa McClung, Director of DWWM, presented several rules under the water program that will be filed in the future. One was the concentrated animal feeding operation (CAFO) rule that was withdrawn by the agency in the 2005 session. As soon as EPA repromulgates its rule, the State will need to do so, perhaps by an emergency rule.

Then the new law transferring the authority to adopt water quality standards to the DEP was discussed. A question was raised concerning the public's involvement in the process. Ms. McClung responded that the process would be somewhat different from the agency's normal rulemaking.

Karen Watson then presented a list of bills passed by the Legislature during the 2005 regular session and signed by the Governor as follows:

1. **SB 428. Creating the Revitalization Environmental Action Plan.**

This legislation transfers the litter control and recycling programs from DNR to DEP and transfers the waste tire remediation program from DOH to DEP. The legislation was amended by the House to require the excess funds to be transferred to the state road fund rather than the solid waste reclamation and environmental response fund. SB 428 bill also incorporates the provisions of Senate Bill 42 at 22-15A-12(f) and (k). These provisions provide liability protection on waste tire remediation to bona fide purchasers of property containing waste tires.

2. **SB 603. Higher Education Bill – Brownfield Assistance Centers.**

This legislation creates a provision in W.Va. Code § 18B11-7 that authorizes Marshall University and West Virginia University to each create Brownfield Assistance Centers for the purpose of acquiring and developing property; seeking federal brownfield assistance funds; and providing assistance to municipalities and local governments for brownfields development.

Comments:

The Council discussed the funding mechanisms under the new law.

3. **HB 3354. Oil and Gas Permit Fee Increase.**

This legislation increases the permit fees for shallow wells from $250 to $400; the permit fees for deep wells from $250 to $650; and the reclamation fees for all well activity from $100 to $150. This legislation also includes some technical amendments to the statutes governing oil and gas and coal bed methane drilling and production. As introduced, the legislation increased the permit fees for coal bed methane wells from $250 to $650 but the legislation was amended by the Senate to eliminate this permit fee increase. In total, this legislation will generate approximately $350,000 for the Office of Oil and Gas.

4. **SB 406. Uniform Environmental Covenant Act.**

This legislation clarifies that environmental covenants containing affirmative obligations issued pursuant to the Voluntary Remediation and Redevelopment Act or other federal or state response actions are enforceable and perpetual; provides notice requirements for those placing environmental covenants on real property; and authorizes the department and local governments to enforce environmental covenants.

Comments:

A question was raised as to local governments.

The agency responded that they are included and have authority under the new law.

5. **HB 2723. Environmental Rules Bundle.**

This legislation consolidates the rules proposed by DEP and EQB. The DEP rules include revisions to the air, waste, water and mining programs. The EQB's rule relates to water quality standards. The EQB's rule was amended to eliminate Fill Hollow Creek in Preston County that the Board recommended to be included on the Tier 2.5 list. Tier 2.5 waters are waters of special concern and include naturally reproducing trout streams.

6. **HB 3236. Thin Seam Coal Tax Applicability.**

This legislation clarifies that the special tax on coal production and the special reclamation tax apply to coal produced from thin seams.

7. **HB 2333. Environmental Good Samaritan Act.**

This legislation protect landowners, groups and individuals who volunteer to reclaim abandoned mineral extraction lands and abate water pollution caused by abandoned mine lands from civil and environmental liability provided such activities are approved by the department and implemented in accordance with the plans approved by the department.

8. **HB 3033. Continuation of Special Reclamation Tax.**

This legislation extends the temporary special reclamation tax of seven cents for an additional eighteen months thereby maintaining the total special reclamation tax at fourteen cents per ton of coal produced. The legislation also requires the Secretary to evaluate and consider additional bonding mechanisms, such as full cost bonding and the creation of a water quality trust fund.

9. **SB 154. Beneficial Reuse of Water Treatment Plant Sludge.**

This legislation authorizes the beneficial reuse of water treatment plant sludge and requires the department to develop rules establishing criteria for the beneficial reuse of water treatment plant sludge.

10. **SB 287. Transfer of Rulemaking Authority for Water Quality Standards.**

This legislation transfers the authority to promulgate water quality standards and the authority to grant remining variances from the Environmental Quality Board to the department.

11. **SB 748. Credit for Mitigation.**

This legislation authorizes the secretary to grant credit for mitigation required by the Corps of Engineers pursuant to permit issued under Section 404 of the Clean Water Act when such mitigation satisfies mitigation required by the West Virginia Water Pollution Control Act.

12. SB 700. Creation of the Community Infrastructure Investment Program.

This legislation authorizes department to grant approval for the construction of privately financed water and sewage treatment facilities without the requirement of a certificate of need and convenience from the Public Service Commission provided that the project results in economic development and improvement of water quality. This legislation also authorizes municipal utilities and public service districts to enter into community service agreements with private developers for the purpose of constructing or expanding public utilities. This legislation also requires the secretary to promulgate emergency rules to implement the program.

Comments:

Two members expressed interest in the future rulemaking efforts and any stakeholders group.

13. HB 3356. Increasing authority of the Solid Waste Management.

This legislation requires the SWMB to conduct biannual performance reviews of county and regional solid waste authorities and grants the SWMB with the authority to supersede or exercise the powers granted to county or regional solid waste authorities that operate a solid waste facility

14. SB 455. Financing of Environmental Control Activities.

This Legislation authorizes the public service commission to review and approve the use of environmental control bonds for environmental control activities by certain qualified electric utilities.

The next meeting date was scheduled for September 15, 2005 – 1:00 p.m. – 3:00 p.m. – Trish will contact everyone with room location and agenda.

Karen Watson adjourned meeting.

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: 45CSR33 - "Acid Rain Provisions and Permits"

Type of Rule: ___X__ Legislative _____Interpretive _____Procedural

Agency: Division of Air Quality

Address: 601 57th Street SE
Charleston, WV 25304

Phone Number: 926-0475 Email: tmowrer@wvdep.org

Fiscal Note Summary

Summarize in a clear and concise manner what impact this measure will have on costs and revenues of state government.

No impact above that resulting from currently applicable federal emission standards.

Fiscal Note Detail

Show over-all effect in Item 1 and 2 and, in Item 3, give an explanation of Breakdown by fiscal year, including long-range effect.

FISCAL YEAR

Effect of Proposal	2006 Increase/Decrease (use "-")	2007 Increase/Decrease (use "-")	Fiscal Year (Upon Full Implementation)
1. Estimated Total Cost	$ 0	$ 0	$ 0
Personal Services	0	0	0
Current Expenses	0	0	0
Repairs & Alterations	0	0	0
Assets	0	0	0
Equipment	0	0	0
Other	0	0	0
2. Estimated Total Revenues	0	0	0

Rule Title: 45CSR33 - "Acid Rain Provisions and Permits"

3. **Explanation of above estimates (including long-range effect):**
Please include any increase or decrease in fees in your estimated total revenues.

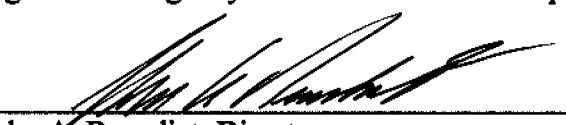
Costs anticipated to be incurred in the implementation of federal rules promulgated under 40 CFR Parts 72 through 77 as of June 1, 2005 are included in prior cost estimates prepared for state implementation of Title V of the Clean Air Act, as amended, under 45CSR30. Full Title V program approval was issued by the U.S. Environmental Protection Agency on November 19, 2001.

MEMORANDUM

Please identify any areas of vagueness, technical defects, reasons the proposed rule **would not** have a fiscal impact, and/or any special issues **not** captured elsewhere on this form.

Date: June 15, 2005

Signature of Agency Head or Authorized Representative



John A. Benedict, Director

TITLE 45
LEGISLATIVE RULE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
~~DIVISION~~ OFFICE OF AIR QUALITY

SERIES 33
ACID RAIN PROVISIONS AND PERMITS

§45-33-1. General.

1.1. Scope. -- This rule establishes and adopts general provisions and the operating permit program requirements for affected sources and affected units under the Acid Rain Program promulgated by the United States Environmental Protection Agency under Title IV of the Clean Air Act, as amended (CAA). The Secretary hereby adopts these standards by reference. The Secretary also adopts associated reference methods, performance specifications and other test methods which are appended to these standards.

1.2. Authority. -- W. Va. Code ~~§§22-5-1 et seq~~ §22-5-4.

1.3. Filing Date. -- ~~April 21, 2003~~.

1.4. Effective Date. -- ~~June 1, 2003~~.

1.5. Incorporation by Reference. -- Federal Counterpart Regulation. The Secretary has determined that a federal counterpart regulation exists, and in accordance with the Secretary's recommendation this rule incorporates by reference the following provisions: 40 CFR Part 72, "Permits Regulation"; 40 CFR Part 74, "Sulfur Dioxide Opt-Ins"; 40 CFR Part 75, "Continuous Emissions Monitoring"; 40 CFR Part 76, "Nitrogen Oxides Reduction Program"; and 40 CFR Part 77, "Excess Emissions"; effective ~~July 1, 2002, as amended by the Federal Register through September 9, 2002~~ June 1, 2005.

1.6. Former Rules. -- This legislative rule amends 45CSR33 "Acid Rain Provisions and Permits" which was filed ~~April 16, 2002~~ April 21, 2003, and which became effective ~~July 1, 2002~~ June 1, 2003.

~~**§45-33-2. Requirements.**~~

~~2.1. No person may construct, modify, or operate or cause to be constructed, modified, or operated an Acid Rain source which results or will result in a violation of this rule.~~

~~§45-33-3.~~§45-33-2. Definitions.

~~3.1.~~2.1. "Administrator" means the Administrator of the United States Environmental Protection Agency.

2.2. "Clean Air Act" ("CAA") means 42 U.S.C. §7401 et seq.

~~3.2.~~2.3. "Permitting Authority" means the Secretary of the West Virginia Department of Environmental Protection.

~~3.3.~~2.4. "Secretary" means the Secretary of the Department of Environmental Protection or ~~such~~ other person to whom the ~~secretary~~ Secretary has delegated authority or duties pursuant to W. Va. Code §§22-1-6 or 22-1-8.

2.5. Other words and phrases used in this rule, unless otherwise indicated, will have the meaning ascribed to them in 40 CFR §72.2. Words and phrases not defined therein will have the meaning given to them in federal Clean Air Act.

§45-33-3. Requirements.

3.1. No person may construct, modify, or operate or cause to be constructed, modified, or operated an affected source which results or will result in a violation of this rule.

§45-33-4. Adoption of Standards.

4.1. The Secretary hereby adopts and incorporates by reference the following provisions of the United States Environmental Protection Agency Acid Rain Program effective ~~July 1, 2002, as amended by the Federal Register through September 9, 2002~~ June 1, 2005: 40 CFR Part 72, "Permits Regulation", including all Subparts and Appendices; 40 CFR Part 74, "Sulfur Dioxide Opt-Ins", including all Subparts; 40 CFR Part 75, "Continuous Emissions Monitoring", including all Subparts and Appendices; 40 CFR Part 76, "Nitrogen Oxides Emissions Reduction Program", including all Appendices; and 40 CFR Part 77, "Excess Emissions". These provisions are adopted for the purposes of implementing an acid rain program that meets the requirements of Title IV of the federal ~~Clean Air Act~~ CAA, as amended.

§45-33-5. Inconsistency Between Rules.

5.1. The provisions of this rule ~~shall~~ must not be construed as exempting persons subject to this rule from compliance with any other provisions of the ~~Clean Air Act~~ CAA, including the provisions of Title I of the ~~Clean Air Act~~ CAA relating to applicable National Ambient Air Quality Standards, the State Implementation Plan, or any other rules of the West Virginia Department of Environmental Protection, except as expressly provided under Title IV of the ~~Clean Air Act~~ CAA; provided however, that in the event of any inconsistency between the provisions of this rule and any provisions of 45CSR30, the provisions of this rule ~~shall~~ will take precedence and ~~shall~~ will govern the issuance, denial, revision, reopening, renewal, and appeal of the Acid Rain provision of an operating permit.

deratings), such increased maximum amount as specified by the person conducting the physical change.

Non-EGU means a source of SO_2 emissions that is not an EGU.

Potential electrical output capacity means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu/kWh, divided by 1,000 kWh/MWh, and multiplied by 8,760 hr/yr.

Sequential use of energy means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.

Topping-cycle cogeneration unit means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

Total energy input means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself.

Total energy output means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

Unit means a stationary, fossil-fuel-fired boiler or a stationary, fossil-fuel fired combustion turbine.

Useful power means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

Useful thermal energy means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process, excluding any heat contained in condensate return or makeup water;

(2) Used in a heat application (*e.g.*, space heating or domestic hot water heating); or

(3) Used in a space cooling application (*i.e.*, thermal energy used by an absorption chiller).

Utility power distribution system means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.

■ 6. Part 51 is amended by adding § 51.125 to Subpart G to read as follows:

§ 51.125 Emissions reporting requirements for SIP revisions relating to budgets for SO_2 and NO_X emissions.

(a) For its transport SIP revision under § 51.123 and/or 51.124, each State must submit to EPA SO_2 and/or NO_X emissions data as described in this section.

(1) Alabama, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, Wisconsin and the District of Columbia, must report annual (12 months) emissions of SO_2 and NO_X.

(2) Alabama, Arkansas, Connecticut, Deleware, Florida, Illinois, Indinia, Iowa, Kentucky, Lousianna, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin and the District of Columbia must report ozone season (May 1 through September 30) emissions of NO_X.

(b) Each revision must provide for periodic reporting by the State of SO_2 and/or NO_X emissions data as specified in paragraph (a) of this section to demonstrate whether the State's emissions are consistent with the projections contained in its approved SIP submission.

(1) Every-year reporting cycle. As applicable, each revision must provide for reporting of SO_2 and NO_X emissions data every year as follows:

(i) The States identified in paragraph (a)(1) of this section must report to EPA annual emissions data every year from all SO_2 and NO_X sources within the State for which the State specified control measures in its SIP submission under §§ 51.123 and/or 51.124.

(ii) The States identified in paragraph (a)(2) of this section must report to EPA ozone season and summer daily emissions data every year from all NO_X sources within the State for which the State specified control measures in its SIP submission under § 51.123.

(iii) If sources report SO_2 and NO_X emissions data to EPA in a given year pursuant to a trading program approved under § 51.123(o) or § 51.124(o) of this part or pursuant to the monitoring and reporting requirements of 40 CFR part 75, then the State need not provide annual reporting of these pollutants to EPA for such sources.

(2) *Three-year reporting cycle.* As applicable, each plan must provide for triennial (*i.e.*, every third year) reporting of SO_2 and NO_X emissions data from all sources within the State.

(i) The States identified in paragraph (a)(1) of this section must report to EPA annual emissions data every third year from all SO_2 and NO_X sources within the State.

(ii) The States identified in paragraph (a)(2) of this section must report to EPA ozone season and ozone daily emissions data every third year from all NO_X sources within the State.

(3) The data availability requirements in § 51.116 must be followed for all data submitted to meet the requirements of paragraphs (b)(1) and (2) of this section.

(c) The data reported in paragraph (b) of this section must meet the requirements of subpart A of this part.

(d) Approval of annual and ozone season calculation by EPA. Each State must submit for EPA approval an example of the calculation procedure used to calculate annual and ozone season emissions along with sufficient information for EPA to verify the calculated value of annual and ozone season emissions.

(e) *Reporting schedules.* (1) Reports are to begin with data for emissions occurring in the year 2008, which is the first year of the 3-year cycle.

(2) After 2008, 3-year cycle reports are to be submitted every third year and every-year cycle reports are to be submitted each year that a triennial report is not required.

(3) States must submit data for a required year no later than 17 months after the end of the calendar year for which the data are collected.

(f) Data reporting procedures are given in subpart A of this part. When submitting a formal NO_X budget emissions report and associated data, States shall notify the appropriate EPA Regional Office.

(g) *Definitions.* (1) As used in this section, "ozone season" is defined as follows:

Ozone season.—The five month period from May 1 through September 30.

(2) Other words and terms shall have the meanings set forth in appendix A of subpart A of this part.

PART 72—PERMITS REGULATION

■ 1. The authority citation for part 72 continues to read as follows:

Authority: 42 U.S.C. 7601 and 7651, *et seq.*

§ 72.2 [Amended]

■ 2. Section 72.2 is amended by:

■ a. Amend the definition of "Acid rain emissions limitation" by replacing, in paragraph (1)(i), the words "an affected unit" with the words "the affected units

at a source" and replacing, in paragraph (1)(ii)(C), the words "compliance subaccount for that unit" with the words "compliance account for that source";

■ b. Amend the definition of "Advance allowance" by replacing the word "unit's" with the word "source";

■ c. Amend the definition of "Allocate or allocation" by replacing the words "unit account" with the words "compliance account";

■ d. Amend the definition of "Allowance deduction, or deduct" by replacing the words "compliance subaccount, or future year subaccount," with the words "compliance account" and replacing the words "from an affected unit" with the words "from the affected units at an affected source";

■ e. Amend the definition of "Allowance transfer deadline" by replacing the words "affected unit's compliance subaccount" with the words "an affected source's compliance account" and replacing the words "the unit's" with the words "the source's";

■ f. Amend the definition of "Authorized account representative" by replacing the words "unit account" with the words "compliance account" and replacing the words "affected unit" with the words "affected source and the affected units at the source";

■ g. Amend the definition of "Compliance use date" by replacing the word "unit's" with the word "source's";

■ h. Amend the definition of "Excess emissions" by, in paragraph (1), replacing the words "an affected unit" with the words "the affected units at an affected source" and replacing the words "for the unit" with the words "for the source";

■ i. Amend the definition of "General account" by replacing the words "unit account" with the words "compliance account";

■ j. Amend the definition of "Offset Plan" by replacing the word "unit" with the word "source";

■ k. Amend the definition of "Recordation, record, or recorded" by removing the words "or subaccount";

■ l. Amend the definition of "Source" by replacing the words "under the Act." with the words "under the Act, provided that one or more combustion or process sources that have, under § 74.4(c) of this chapter, a different designated representative than the designated representative for one or more affected utility units at a source shall be treated as being included in a separate source from the source that includes such utility units for purposes of parts 72 through 78 of this chapter, but shall be treated as being included in the same source as the source that includes such utility units for purposes of section 502(c) of the Act."

■ m. Amend the definition of "Spot allowance" by replacing the word "unit's" with the word "source's"; and

■ n. Revise the definition of "Cogeneration unit";

■ o. Add a new definition of "Compliance account"; and

■ p. Remove the definitions of "Compliance subaccount", "Current year subaccount", "Direct Sale Subaccount", "Future year subaccount", and "Unit account".

§ 72.2 Definitions.

* * * * *

Cogeneration unit means a unit that has equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes, through sequential use of energy.

* * * * *

Compliance account means an Allowance Tracking System account, established by the Administrator under § 73.31(a) or (b) of this chapter or § 74.40(a) of this chapter for an affected source and for each affected unit at the source.

* * * * *

§ 72.7 [Amended]

■ 3. Section 72.7 is amended in paragraph (c)(1)(ii), in the first sentence, by replacing the word "unit's Allowance Tracking System account" with the words "compliance account of the source that includes the unit", and by removing the third sentence of paragraph (c)(1)(ii).

§ 72.9 [Amended]

■ 4. Section 72.9 is amended by:

■ a. In paragraph (b)(2), replace the word "unit" with the words "source or unit, as appropriate,";

■ b. In paragraph (c)(1)(i), replace the words "unit's compliance subaccount" with the words "source's compliance account" and replace the words "from the unit" with the words "from the affected units at the source";

■ c. In paragraphs (e)(1) and (e)(2) introductory text, replace the words "an affected unit" with the words "an affected source";

■ d. In paragraph (g)(6), remove the second sentence; and

■ e. In paragraph (h)(2), replace the word "unit" with the word "source" wherever it appears.

§ 72.21 [Amended]

■ 5. Section 72.21 is amended by:

■ a. In paragraph (b)(1), remove the word "affected" wherever it appears; and

■ b. In paragraph (e)(2), replace the words "unit account" with the words "compliance account".

§ 72.24 [Amended]

■ 6. Section 72.24 is amended by removing and reserving paragraphs (a)(5), (a)(7), and (a)(10).

§ 72.40 [Amended]

■ 7–8. Section 72.40 is amended, in paragraph (a)(1), replace the words "unit's compliance subaccount" with the words "compliance account of the source where the unit is located"; remove the words ", or in the compliance subaccount of another affected unit at the source to the extent provided in § 73.35(b)(3),"; and replace the words "from the unit" with the words "from the affected units at the source".

§ 72.72 [Amended]

■ 9. Section 72.72 is amended by:

■ a. In paragraph (a)(1), add the words "or affected source" after the words "affected unit";

■ b. In paragraph (a)(2), add the words "or an affected source's" after the words "affected unit's"; and

■ c. In paragraph (a)(3), add the words "or affected source" after the words "affected unit" whenever they appear.

§ 72.73 [Amended]

■ 10. Section 72.73 is amended in paragraph (b)(2) by replacing the words "the first Acid Rain permit" with the words "an Acid Rain permit".

§ 72.90 [Amended]

■ 11. Section 72.90 is amended by, in paragraph (a), add, after the words "each calendar year", the words "during 1995 through 2005".

§ 72.95 [Amended]

■ 12. Section 72.95 is amended by:

■ a. In the introductory text, replace the words "an affected unit's compliance subaccount" with the words "an affected source's compliance account"; and

■ b. In paragraph (a), replace the words "by the unit" with the words "by the affected units at the source".

§ 72.96 [Amended]

■ 13. Section 72.96 is amended in paragraph (b), by replacing the words "unit"s Allowance Tracking System account" with the words "source's compliance account".

PART 73—SULFUR DIOXIDE ALLOWANCE SYSTEM

■ 1. The authority citation for part 73 continues to read as follows:

Authority: 42 U.S.C. 7601 and 7651, *et seq.*

§ 73.10 [Amended]

■ 2. Section 73.10 is amended by:
■ a. In paragraph (a), replace the words "unit account for each" with the words "compliance account for each source that includes a" and remove the words "in each future year subaccount"; and
■ b. In paragraphs (b)(1) and (b)(2), replace the words "unit account for each" with the words "compliance account for each source that includes a" and replace the words "in the future year subaccounts representing calendar years" with the words "for the years".

§ 73.27 [Amended]

■ 3. Section 73.27 is amended in paragraphs (c)(3) and (c)(5) by replacing the words "unit's Allowance Tracking System account" with the words "compliance account of the source that includes the unit".

§ 73.30 [Amended]

■ 4. Section 73.30 is amended by:
■ a. In paragraph (a), add the word "compliance" after the word "establish"; replace the words "affected units" with the words "affected sources"; and replace the words "unit's Allowance Tracking System account" with the words "source's compliance account"; and
■ b. In paragraph (b), replace the word "unit" with the word "source" and replace the words "Allowance Tracking System account" with the words "general account".

§ 73.31 [Amended]

■ 5. Section 73.31 is amended by:
■ a. In paragraph (a), replace the words "an Allowance Tracking System account" with the words "a compliance account" and replace the words "each unit" with the words "each source that includes a unit";
■ b. In paragraph (b), replace the words "an Allowance Tracking System account for the unit." with the words "a compliance account for the source that includes the unit, unless the source already has a compliance account."; and
■ c. In paragraph (c)(1)(v), replace the words "Allowance Tracking System account" with the words "general account" and remove the words "I shall abide by any fiduciary responsibilities assigned pursuant to the binding agreement.".

§ 73.32 [Removed and Reserved]

■ 6. Section 73.32 is removed and reserved.

§ 73.33 [Amended]

■ 7. Section 73.33 is amended by removing and reserving paragraphs (b) and (c).

§ 73.34 [Amended]

■ 8. Section 73.34 is amended by:
■ a. Revise paragraphs (a) and (b) to read as set forth below;
■ b. In paragraph (c) introductory text, remove the paragraph heading and replace the words "compliance, current year, and future year" with the words "compliance account and general account".

§ 73.34 Recordation in accounts.

(a) After a compliance account is established under § 73.31(a) or (b), the Administrator will record in the compliance account any allowance allocated to any affected unit at the source for 30 years starting with the later of 1995 or the year in which the compliance account is established and any allowance allocated for 30 years starting with the later of 1995 or the year in which the compliance account is established and transferred to the source with the transfer submitted in accordance with § 73.50. In 1996 and each year thereafter, after Administrator has completed the deductions pursuant to § 73.35(b), the Administrator will record in the compliance account any allowance allocated to any affected unit at the source for the new 30th year (*i.e.*, the year that is 30 years after the calendar year for which such deductions are made) and any allowance allocated for the new 30th year and transferred to the source with the transfer submitted in accordance with § 73.50.

(b) After a general account is established under § 73.31(c), the Administrator will record in the general account any allowance allocated for 30 years starting with the later of 1995 or the year in which the general account is established and transferred to the general account with the transfer submitted in accordance with § 73.50. In 1996 and each year thereafter, after the Administrator has completed the deductions pursuant to § 73.35(b), the Administrator will record in the general account any allowance allocated for the new 30th year (*i.e.*, the year that is 30 years after the calendar year for which such deductions are made) and transferred to the general account with the transfer submitted in accordance with § 73.50.

* * * * *

§ 73.35 [Amended]

■ 9. Section 73.35 is amended by:
■ a. In paragraph (a) introductory text and paragraph (a)(1), replace the words "unit's" with the word "source's";
■ b. In paragraph (a)(2), replace the word "Such" with the word "The";
■ c. In paragraph (a)(2)(i), replace the words "the unit's compliance subaccount" with the words "the source's compliance account";
■ d. In paragraph (a)(2)(ii), replace the words "the unit's compliance subaccount" with the words "the source's compliance account", replace the words "compliance subaccount for the unit" with the words "source's compliance account", and replace the word "or" with the word "and";
■ e. Remove paragraph (a)(2)(iii);
■ f. Add a new paragraph (a)(3);
■ g. In paragraph (b)(1), replace the words "compliance subaccount" with the words "compliance account", add the words "available for deduction under paragraph (a) of this section" after the words "deduct allowances", and replace the words "each affected unit's compliance subaccount" with the words "each affected source's compliance account";
■ h. In paragraph (b)(2), replace the words "allowances remain in the compliance subaccount" with the words "allowances available for deduction under paragraph (a) of this section remain in the compliance account";
■ i. Remove paragraph (b)(3);
■ j. Revise paragraph (c)(1) to read as set forth below;
■ k. In paragraph (c)(2), replace the words "for the unit" with the words "for the units at the source", replace the words "in its compliance subaccount." with the words "in the source's compliance account.", replace the words "from the compliance subaccount" with the words "from the compliance account", and replace the words "unit's compliance subaccount" with the words "source's compliance account";
■ l. In paragraph (d), replace the words "for each unit" with the words "for each source" and replace the word "unit's" with the word "source's"; and
■ m. Remove paragraph (e).

§ 73.35 Compliance.

(a) * * *

(3) The allowance was not previously deducted by the Administrator in accordance with a State SO_2 mass emissions reduction program under § 51.124(o) of this chapter or otherwise permanently retired in accordance with § 51.124(p) of this chapter.

* * * * *

(c)(1) *Identification of allowances by serial number.* The authorized account representative for a source's compliance account may request that specific allowances, identified by serial number, in the compliance account be deducted for a calendar year in accordance with paragraph (b) or (d) of this section. Such request shall be submitted to the

Administrator by the allowance transfer deadline for the year and include, in a format prescribed by the Administrator, the identification of the source and the appropriate serial numbers.

* * * * *

§ 73.36 [Amended]

■ 10. Section 73.36 is amended by:
■ a. In paragraph (a), replace the words "Unit accounts." with the words "Compliance accounts." and replace with words "compliance subaccount" with the words "compliance account" whenever they appear; and
■ b. In paragraph (b), replace the words "current year subaccount" with the words "general account" whenever they appear and replace the words "at the end of the current calendar year" with the words "not transferred pursuant to subpart D to another Allowance Tracking System account".

■ 11. Section 73.37 is revised to read as follows:

§ 73.37 Account error.

The Administrator may, at his or her sole discretion and on his or her own motion, correct any error in any Allowance Tracking System account. Within 10 business days of making such correction, the Administrator will notify the authorized account representative for the account.

§ 73.38 [Amended]

■ 12. Section 73.38 is amended by:
■ a. In paragraph (a), replace the words "delete the general account from the Allowance Tracking System." with the words "close the general account."; and
■ b. In paragraph (b), replace the words "for a period of a year or more" with the words "for a 12-month period or longer"; remove the words "in its subaccounts"; replace the words "will notify" with the words "may notify"; remove the words "and eliminated from the Allowance Tracking System"; and remove the last sentence.

§ 73.50 [Amended]

■ 13. Section 73.50 is amended by:
■ a. In paragraph (a), remove the words ", including, but not limited to, transfers of an allowance to and from contemporaneous future year subaccounts, and transfers of an allowance to and from compliance subaccounts and current year subaccounts, and transfers of all allowances allocated for a unit for each calendar year in perpetuity";
■ b. In paragraph (b)(1)(ii), remove the words ", or correct indication on the allowance transfer where a request involves the transfer of the unit's allowance in perpetuity";
■ c. In paragraph (b)(2)(ii), remove the words "Allowance Tracking System" and "under 40 CFR part 73, or any other remedies" and remove the comma after the words "under State or Federal law"; and
■ d. Remove paragraph (b)(3).

§ 73.51 [Removed and Reserved]

■ 14. Section 73.51 is removed and reserved.

§ 73.52 [Amended]

■ 15. Section 73.52 is amended by:
■ a. In paragraph (a) introductory text, remove the words "§ 73.50, § 73.51, and" and add the words "(or longer as necessary to perform a transfer in perpetuity of allowances allocated to a unit)" after the words "five business days";
■ b. Revise paragraphs (a)(1), (a)(2) and (a)(3);
■ c. Remove paragraph (a)(4);
■ d. Revise paragraph (b); and
■ e. Add a new paragraph (c) to read as follows:

§ 73.52 EPA recordation.

(a) * * *

(1) The transfer is correctly submitted under § 73.50;

(2) The transferor account includes each allowance identified by serial number in the transfer; and

(3) If the allowances identified by serial number specified pursuant to § 73.50(b)(1)(ii) are subject to the limitation on transfer imposed pursuant to § 72.44(h)(1)(i) of this chapter, § 74.42 of this chapter, or § 74.47(c) of this chapter, the transfer is in accordance with such limitation.

(b) To the extent an allowance transfer submitted for recordation after the allowance transfer deadline includes allowances allocated for any year before the year in which the allowance transfer deadline occurs, the transfer of such allowance will not be recorded until after completion of the deductions pursuant to § 73.35(b) for year before the year in which the allowance transfer deadline occurs.

(c) Where an allowance transfer submitted for recordation fails to meet the requirements of paragraph (a) of this section, the Administrator will not record such transfer.

§ 73.70 [Amended]

■ 16. Section 73.70 is amended by:
■ a. In paragraph (e), remove the last two sentences.
■ b. In paragraph (f), replace the words "the subaccount" by the words "the Allowance Tracking System account"; and
■ c. In paragraph (i)(1), add the words "source that includes a" after the words "Allowance Tracking System account of each".

PART 74—SULFUR DIOXIDE OPT-INS

■ 1. The authority citation for part 74 continues to read as follows:

Authority: 42 U.S.C. 7601 and 7651, *et seq.*

§ 74.4 [Amended]

■ 2. Section 74.4 is amended by:
■ a. In paragraph (c)(1), replace the words "a combustion or process source that is located" with the words "one or more combustion or process sources that are located", replace the words "such combustion or process source and thereafter, does" with the words "such combustion or process sources and thereafter, do", and replace the words "designate, for such combustion or process source" with the words "designate, for such combustion or process sources"; and
■ b. In paragraph (c)(2), replace the words "the combustion or process source" with the words "the combustion or process sources" whenever they occur and replace the word "meets" with the word "meet" in the first sentence.

§ 74.18 [Amended]

■ 3. Section 74.18 is amended in paragraph (d) by removing the last sentence.

§ 74.40 [Amended]

■ 4. Section 74.40 is amended by:
■ a. In paragraph (a), replace the words "an opt-in account" with the words "a compliance account", replace the words "an account" with the words "a compliance account (unless the source that includes the opt-in source already has a compliance account or the opt-in source has, under § 74.4(c), a different designated representative than the designated representative for the source)", and remove the last sentence.
■ b. In paragraph (b), replace the words "allowance account in the Allowance Tracking System" with the words "compliance account (unless the source that includes the opt-in source already has a compliance account or the opt-in source has, under § 74.4(c), a different designated representative than the designated representative for the source)".

■ 5. Section 74.42 is revised to read as follows:

§ 74.42 Limitation on transfers.

(a) With regard to a transfer request submitted for recordation during the period starting January 1 and ending with the allowance transfer deadline in the same year, the Administrator will not record a transfer of an opt-in

allowance that is allocated to an opt-in source for the year in which the transfer request is submitted or a subsequent year.

(b) With regard to a transfer request during the period starting with the day after an allowance transfer deadline and ending December 31 in the same year, the Administrator will not record a transfer of an opt-in allowance that is allocated to an opt-in source for a year after the year in which the transfer request is submitted.

§ 74.43 [Amended]

■ 6. Section 74.43 is amended by:
■ a. In paragraph (a), remove the words "in lieu of any annual compliance certification report required under subpart I of part 72 of this chapter";
■ b. In paragraph (b)(7), replace the word "At" with the words, "In an annual compliance certification report for a year during 1995 through 2005, at"; and
■ c. In paragraph (b)(8), replace the word "The" with the words, "In an annual compliance certification report for a year during 1995 through 2005, the".

§ 74.44 [Amended]

■ 7. Section 74.44 is amended by:
■ a. In paragraph (c)(1)(ii), remove the words "opt-in source's" and add the words "of the source that includes the opt-in source" after the word "System";
■ b. In paragraphs (c)(2)(iii)(C), (c)(2)(iii)(D), (c)(2)(iii)(E) introductory text, and (c)(2)(iii)(E)(3), replace the words "opt-in source's compliance subaccount" with the words "compliance account of the source that includes the opt-in source" whenever they occur; and
■ c. In paragraph (c)(2)(iii)(F), replace the words "opt-in source's compliance subaccount" with the words "compliance account of the source that includes the opt-in source" and replace the words "source's compliance subaccount" with the words "compliance account of the source that includes the opt-in source".

§ 74.46 [Amended]

■ 8. Section 74.46 is amended by removing and reserving paragraph (b)(2).

§ 74.47 [Amended]

■ 9. Section 74.47 is amended by:
■ a. In paragraph (a)(3)(iv), remove the words "opt-in source's" and add the words "of the source that includes the opt-in source" after the word "System";
■ b. In paragraph (a)(3)(v), replace the word "Each" with the word "The", remove the words "replacement unit's" and "(ATS)", and add the words "of each source that includes a replacement unit" after the word "System";
■ c. In paragraph (a)(6), replace the words "Allowance Tracking System account of each replacement unit" with the words "compliance account of each source that includes a replacement unit";
■ d. In paragraph (c), replace the words "unit account" with the words "compliance account of the source that includes the replacement unit" and replace the words "account in the Allowance Tracking System" with the words "Allowance Tracking System account";
■ e. In paragraph (d)(1)(ii)(C), remove the words "opt-in source's" and "(ATS)" and add the words "of the source that includes the opt-in source" after the word "System";
■ f. In paragraph (d)(1)(ii)(D), replace the words "(ATS) for each" with the words "of each source that includes a";
■ g. In paragraph (d)(2)(i), replace the words "Allowance Tracking System accounts for the opt-in source and for each replacement unit" with the words "compliance account for each source that includes the opt-in source or a replacement unit";
■ h. In paragraph (d)(2)(i)(B), replace the words "Allowance Tracking System account of the opt-in source" with the words "compliance account of the source that includes the opt-in source"; and
■ i. In paragraph (d)(2)(ii), replace the words "Allowance Tracking System accounts for the opt-in source and for each replacement unit" with the words "compliance account for each source that includes the opt-in source or a replacement unit".

§ 74.49 [Amended]

■ 10. Section 74.49 is amended, in paragraph (a) introductory text, by replacing the words "an opt-in source's compliance subaccount" with the words "the compliance account of a source that includes an opt-in source".

§ 74.50 [Amended]

■ 11. Section 74.50 is amended by:
■ a. In paragraph (a)(2) introductory text, add the words "source that includes" after the words "the account of the";
■ b. In paragraph (a)(2)(i), replace the words "opt-in source's compliance subaccount" with the words "the compliance account of the source that includes the opt-in source"; and
■ c. In paragraph (b), replace the words "the opt-in source's unit account" with the words "the compliance account of the source that includes the opt-in source"; and
■ d. In paragraph (d), replace the words "an opt-in source does not hold" with the words "the source that includes the opt-in source does not hold".

PART 77—EXCESS EMISSIONS

■ 1. The authority citation for part 77 continues to read as follows:

Authority: 42 U.S.C. 7601 and 7651, *et seq.*

§ 77.3 [Amended]

■ 2. Section 77.3 is amended by:
■ a. In paragraph (a), replace the words "affected unit" with the words "affected source" and replace the word "unit's Allowance Tracking System account" with the words "source's compliance account";
■ b. In paragraphs (b) and (c), replace the word "unit" with the word "source" wherever it appears; and
■ c. In paragraph (d) introductory text and paragraphs (d)(1) and (d)(2), replace the word "unit" with the word "source" whenever it appears;
■ d. In paragraphs (d)(3) and (d)(4), replace the words "unit's Allowance Tracking System account" with the words "source's compliance account's" whenever they appear; and
■ e. In paragraph (d)(5), replace the words "unit's compliance subaccount" with the words "source's compliance account".

§ 77.4 [Amended]

■ 3. Section 77.4 is amended by:
■ a. In paragraph (b)(1), replace the words "unit's compliance subaccount" with the words "source's compliance account"; and
■ b. In paragraphs (c)(1)(ii)(A), (d)(1), (d)(2), (d)(3), (e)(iv), (g)(2)(ii), (g)(3)(ii), and (g)(3)(iii), replace the word "unit" with the word "source"; and
■ c. In paragraph (k)(2), replace the words "unit's compliance subaccount" with the words "source's compliance account" and replace the word "unit" with the word "source".

§ 77.5 [Amended]

■ 4. Section 77.5 is amended by:
■ a. In paragraph (b), replace the words "compliance subaccount" with the words "compliance account";
■ b. In paragraph (c), replace the words ", from the unit's compliance subaccount" with the words "allocated for the year after the year in which the source has excess emissions, from the source's compliance account", and replace the word "unit's" with the word "source's"; and
■ c. Remove paragraph (d).

§ 77.6 [Amended]

■ 5. Section 77.6 is amended by:
■ a. In paragraph (a)(1), add the words "occur at the affected source" after the

words "sulfur dioxide" and replace the words "owners and operators of the affected unit" with the words "owners and operators respectively of the affected source and the affected units at the source or of the affected unit";

■ b. In paragraph (b)(1)(i)(A), replace the word "unit" with the words "source or unit as appropriate"; and

■ c. In paragraphs (b)(3),(c), and (f), replace the word "unit" with the words "source or unit as appropriate".

PART 78—APPEAL PROCEDURES

■ 1. The title of part 78 is revised to read as set forth above.

■ 2. The authority citation for part 78 continues to read as follows:

Authority: 42 U.S.C. 7401, 7403, 7410, 7426, 7601, and 7651, *et seq.*

§78.1 [Amended]

■ 3. Section 78.1 is amended by:

■ a. In paragraph (a)(1), replace the words "parts 72, 73, 74, 75, 76, or 77 of this chapter or part 97 of this chapter" with the words "part 72, 73, 74, 75, 76, or 77 of this chapter, subparts AA through II of part 96 of this chapter, subparts AAA through III of part 96 of this chapter, and subparts AAAA through subparts IIII of part 96 of this chapter, or part 97 of this chapter";

■ b. Revise paragraph (b)(2)(i);

■ c. Add new paragraphs (b)(7), (b)(8), and (b)(9) to read as follows:

§78.1 Purpose and scope.

* * * * *

(b) * * *

(2) * * *

(i) The correction of an error in an Allowance Tracking System account;

* * * * *

(7) Under subparts AA through II of part 96 of this chapter,

(i) The decision on the allocation of CAIR NO_X allowances under § 96.141(b)(2) or (c)(2) of this chapter.

(ii) The decision on the deduction of CAIR NO_X allowances, and the adjustment of the information in a submission and the decision on the deduction or transfer of CAIR NO_X allowances based on the information as adjusted, under § 96.154 of this chapter;

(iii) The correction of an error in a CAIR NO_X Allowance Tracking System account under § 96.156 of this chapter;

(iv) The decision on the transfer of CAIR NO_X allowances under § 96.161 of this chapter;

(v) The finalization of control period emissions data, including retroactive adjustment based on audit;

(vi) The approval or disapproval of a petition under § 96.175 of this chapter.

(8) Under subparts AAA through III of part 96 of this chapter,

(i) The decision on the deduction of CAIR SO_2 allowances, and the adjustment of the information in a submission and the decision on the deduction or transfer of CAIR SO_2 allowances based on the information as adjusted, under § 96.254 of this chapter;

(ii) The correction of an error in a CAIR SO_2 Allowance Tracking System account under § 97.256 of this chapter;

(iii) The decision on the transfer of CAIR SO_2 allowances under § 96.261 of this chapter;

(iv) The finalization of control period emissions data, including retroactive adjustment based on audit;

(v) The approval or disapproval of a petition under § 96.275 of this chapter.

(9) Under subparts AAAA through IIII of part 96 of this chapter,

(i) The decision on the allocation of CAIR NO_X Ozone Season allowances under § 96.341(b)(2) or (c)(2)of this chapter.

(ii) The decision on the deduction of CAIR NO_X Ozone Season allowances, and the adjustment of the information in a submission and the decision on the deduction or transfer of CAIR NO_X Ozone Season allowances based on the information as adjusted, under § 96.354 of this chapter;

(iii) The correction of an error in a CAIR NO_X Ozone Season Allowance Tracking System account under § 96.356 of this chapter;

(iv) The decision on the transfer of CAIR NO_X Ozone Season allowances under § 96.361;

(v) The finalization of control period emissions data, including retroactive adjustment based on audit;

(vi) The approval or disapproval of a petition under § 96.375 of this chapter.

* * * * *

§78.3 [Amended]

■ 4. Section 78.3 is amended by:

■ a. In paragraph (b)(3)(i), add the words "or the CAIR designated representative or CAIR authorized account representative under paragraph (a)(4), (5), or (6) of this section (unless the CAIR designated representative or CAIR authorized account representative is the petitioner)" after the words "(unless the NO_X authorized account representative is the petitioner)";

■ b. In paragraph (c)(7), replace the words "or part 97 of this chapter, as appropriate" with the words ", subparts AA through II of part 96 of this chapter, subparts AAA through III of part 96 of this chapter, subparts AAAA through IIII of part 96 of this chapter, or part 97 of this chapter, as appropriate";

■ c. In paragraph (d)(3), add the words "or on an account certificate of representation submitted by a CAIR designated representative or an application for a general account submitted by a CAIR authorized account representative under subparts AA through II, subparts AAA through III, or subparts AAAA through IIII of part 96 of this chapter" after the words "under the NO_X Budget Trading Program";

■ d. Add new paragraphs (a)(4), (a)(5), (a)(6), (d)(5), (d)(6), and (d)(7) to read as follows:

§78.3 Petition for administrative review and request for evidentiary hearing.

(a) * * *

(4) The following persons may petition for administrative review of a decision of the Administrator that is made under subparts AA through II of part 96 of this chapter and that is appealable under § 78.1(a):

(i) The CAIR designated representative for a unit or source, or the CAIR authorized account representative for any CAIR NO_X Allowance Tracking System account, covered by the decision; or

(ii) Any interested person.

(5) The following persons may petition for administrative review of a decision of the Administrator that is made under subparts AAA through III of part 96 of this chapter and that is appealable under § 78.1(a):

(i) The CAIR designated representative for a unit or source, or the CAIR authorized account representative for any CAIR SO_2 Allowance Tracking System account, covered by the decision; or

(ii) Any interested person.

(6) The following persons may petition for administrative review of a decision of the Administrator that is made under subparts AAAA through IIII of part 96 of this chapter and that is appealable under § 78.1(a):

(i) The CAIR designated representative for a unit or source, or the CAIR authorized account representative for any CAIR Ozone Season NO_X Allowance Tracking System account, covered by the decision; or

(ii) Any interested person.

* * * * *

(d) * * *

(5) Any provision or requirement of subparts AA through II of part 96 of this chapter, including the standard requirements under § 96.106 of this chapter and any emission monitoring or reporting requirements.

(6) Any provision or requirement of subparts AAA through III of part 96 of this chapter, including the standard requirements under § 96.206 of this

17.2 40 CFR part 60, appendix A, "Method 29—Determination of Metals Emissions from Stationary Sources."

17.3 ASTM Method D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)."

18.0 Tables and Figures.

TABLE 12A–1.—T-VALUES

n[a]	$t_{0.975}$	n[a]	$t_{0.975}$	n[a]	$t_{0.975}$
2	12.706	7	2.447	12	2.201
3	4.303	8	2.365	13	2.179
4	3.182	9	2.306	14	2.160
5	2.776	10	2.262	15	2.145
6	2.571	11	2.228	16	2.131

[a] The values in this table are already corrected for n–1 degrees of freedom. Use n equal to the number of individual values.

FIGURE 12A–1.—ME, ZD AND UD DETERMINATION

	Date	Time	Reference Gas value µg/m³	CEMS measured value µg/m³	Absolute difference	Drift or measurement error (% of span value)
Zero level						
Mid level						
High level						

* * * * *

PART 72—PERMITS REGULATION

■ 15. The authority citation for part 72 continues to read as follows:

Authority: 42 U.S.C. 7601 and 7651, *et seq.*

■ 16. Section 72.2 is amended in the definition of "Continuous emission monitoring system or CEMS" by revising the introductory text and adding paragraph (7); and by adding, in alphabetical order, a new definition for "sorbent trap monitoring system," to read as follows:

§ 72.2 Definitions

* * * * *

Continuous emission monitoring system or *CEMS* means the equipment required by part 75 of this chapter used to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system (DAHS)), a permanent record of SO_2, NO_X, Hg, or CO_2 emissions or stack gas volumetric flow rate. The following are the principal types of continuous emission monitoring systems required under part 75 of this chapter. Sections 75.10 through 75.18, § 75.71(a) and 75.81 of this chapter indicate which type(s) of CEMS is required for specific applications:

* * * * *

(7) A Hg concentration monitoring system, consisting of a Hg pollutant concentration monitor and an automated DAHS. A Hg concentration monitoring system provides a permanent, continuous record of Hg emissions in units of micrograms per standard cubic meter (µg/scm).

* * * * *

Sorbent trap monitoring system means the equipment required by part 75 of this chapter for the continuous monitoring of Hg emissions, using paired sorbent traps containing iodinized charcoal (IC) or other suitable reagent(s). This excepted monitoring system consists of a probe, the paired sorbent traps, a heated umbilical line, moisture removal components, an air-tight sample pump, a dry gas meter, and an automated data acquisition and handling system. The monitoring system samples the stack gas at a rate proportional to the stack gas volumetric flow rate. The sampling is a batch process. Using the sample volume measured by the dry gas meter and the results of the analyses of the sorbent traps, the average Hg concentration in the stack gas for the sampling period is determined, in units of micrograms per dry standard cubic meter (µg/dscm). Mercury mass emissions for each hour in the sampling period are calculated using the average Hg concentration for that period, in conjunction with contemporaneous hourly measurements

of the stack gas flow rate, corrected for the stack gas moisture content.

* * * * *

PART 75—CONTINUOUS EMISSION MONITORING

■ 17. The authority citation for Part 75 continues to read as follows:

Authority: 42 U.S.C. 7601, 7651k, and 7651k note.

■ 18. Section 75.2 is amended by adding paragraph (d), to read as follows:

§ 75.2 Applicability.

* * * * *

(d) The provisions of this part apply to sources subject to a State or Federal mercury (Hg) mass emission reduction program, to the extent that these provisions are adopted as requirements under such a program.

* * * * *

■ 19. Section 75.6 is amended as follows:

■ a. In the introductory text, by removing "1916 Race Street, Philadelphia, Pennsylvania 19103;" and adding "100 Barr harbor Drive, P.O. Box C–700, West Conshohocken, Pennsylvania 19428–2959;" in its place;

■ b. Redesignate paragraphs (a)(38) through (a)(41) as (a)(39) through (a)(42);

■ c. Add new paragraphs (a)(38), (a)(43), and (a)(44); and

■ d. Revise paragraphs (b), (c), (d), and (e) to read as follows:

§ 75.6 Incorporation by Reference.

* * * * *

(a) * * *

(38) ASTM D4840–99 (reapproved 2004), "Standard Guide for Sample Chain-of-Custody Procedures," for appendix K of this part, section 7.2.9.

* * * * *

(43) ASTM D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)," for § 75.22(a)(7) and (b)(5).

(44) ASTM D6911–03, "Guide for Packaging and Shipping Environmental Samples for Laboratory Analysis," for appendix K of this part, section 7.2.8.

* * * * *

(b) The following materials are available for purchase from the American Society of Mechanical Engineers (ASME), 22 Law Drive, P.O. Box 2900, Fairfield, New Jersey 07007–2900:

* * * * *

(c) The following materials are available for purchase from the American National Standards Institute (ANSI), 25 West 43rd Street, Fourth Floor, New York, New York 10036:

(1) ISO 8316: 1987(E) Measurement of Liquid Flow in closed Conduits-Method by Collection of the Liquid in a Volumetric Tank, for appendices D and E of this part.

(2) [Reserved]

* * * * *

(d) The following materials are available for purchase from the following address: Gas Processors Association (GPA), 6526 East 60th Street, Tulsa, Oklahoma 74143:

* * * * *

(e) The following American Gas Association materials are available for purchase from the following address: ILI Infodisk, 610 Winters Avenue, Paramus, New Jersey 07652:

* * * * *

■ 20. Section 75.10 is amended by revising the second sentence of paragraph (d)(1) and revising the first sentence of paragraph (d)(3) to read as follows:

§ 75.10 General operating requirements.

* * * * *

(d) * * *

(1) * * * The owner or operator shall reduce all SO_2 concentrations, volumetric flow, SO_2 mass emissions, CO_2 concentration, O_2 concentration, CO_2 mass emissions (if applicable), NO_X concentration, NO_X emission rate, and Hg concentration data collected by the monitors to hourly averages. * * *

* * * * *

(3) Failure of an SO_2, CO_2, or O_2 emissions concentration monitor, NO_X concentration monitor, Hg concentration monitor, flow monitor, moisture monitor, or NO_X-diluent continuous emission monitoring system to acquire the minimum number of data points for calculation of an hourly average in paragraph (d)(1) of this section shall result in the failure to obtain a valid hour of data and the loss of such component data for the entire hour. * * *

* * * * *

■ 21. Section 75.15 is added to read as follows:

§ 75.15 Special provisions for measuring Hg mass emissions using the excepted sorbent trap monitoring methodology.

For an affected coal-fired unit under a State or Federal Hg mass emission reduction program that adopts the provisions of subpart I of this part, if the owner or operator elects to use sorbent trap monitoring systems (as defined in § 72.2 of this chapter) to quantify Hg mass emissions, the guidelines in paragraphs (a) through (j) of this section shall be followed for this excepted monitoring methodology:

(a) For each sorbent trap monitoring system (whether primary or redundant backup), the use of paired sorbent traps, as described in appendix K to this part, is required;

(b) Each sorbent trap shall have both a main section, a backup section, and a third section to allow spiking with a calibration gas of known Hg concentration, as described in appendix K to this part;

(c) A certified flow monitoring system is required;

(d) Correction for stack gas moisture content is required, and in some cases, a certified O_2 or CO_2 monitoring system is required (see § 75.81(a)(4));

(e) Each sorbent trap monitoring system shall be installed and operated in accordance with appendix K to this part. The automated data acquisition and handling system shall ensure that the sampling rate is proportional to the stack gas volumetric flow rate.

(f) At the beginning and end of each sample collection period, and at least once in each unit operating hour during the collection period, the dry gas meter reading shall be recorded.

(g) After each sample collection period, the mass of Hg adsorbed in each sorbent trap (in all three sections) shall be determined according to the applicable procedures in appendix K to this part.

(h) The hourly Hg mass emissions for each collection period are determined using the results of the analyses in conjunction with contemporaneous hourly data recorded by a certified stack flow monitor, corrected for the stack gas moisture content. For each pair of sorbent traps analyzed, the average of the two Hg concentrations shall be used for reporting purposes under § 75.84(f). Notwithstanding this requirement, if, due to circumstances beyond the control of the owner or operator, one of the paired traps is accidentally lost, damaged, or broken and cannot be analyzed, the results of the analysis of the other trap, if valid, may be used for reporting purposes.

(i) All unit operating hours for which valid Hg concentration data are obtained with the primary sorbent trap monitoring system (as verified using the quality assurance procedures in appendix K to this part) shall be reported in the electronic quarterly report under § 75.84(f). For hours in which data from the primary monitoring system are invalid, the owner or operator may report valid Hg concentration data from a certified redundant backup CEMS or sorbent trap monitoring system or from an applicable reference method under § 75.22. If no quality-assured Hg concentration are

available for a particular hour, the owner or operator shall report the appropriate substitute data value in accordance with § 75.39.

(j) Initial certification requirements and additional quality-assurance requirements for the sorbent trap monitoring systems are found in § 75.20(c)(9), in section 6.5.7 of appendix A to this part, in sections 1.5 and 2.3 of appendix B to this part, and in appendix K to this part.

■ 22. Section 75.20 is amended by:
■ a. Revising paragraph (a)(5)(i);
■ b. Revising the first sentence of paragraph (b) introductory text;
■ c. Revising paragraph (c)(1);
■ d. Redesignating existing paragraphs (c)(9) and (c)(10) as paragraphs (c)(10) and (c)(11), respectively;
■ e. Adding a new paragraph (c)(9); and
■ f. Revising paragraph (d)(2)(v).

The revisions and additions read as follows:

§ 75.20 Initial certification and recertification procedures.

(a) * * *

(5) * * *

(i) Until such time, date, and hour as the continuous emission monitoring system can be adjusted, repaired, or replaced and certification tests successfully completed (or, if the conditional data validation procedures in paragraphs (b)(3)(ii) through (b)(3)(ix) of this section are used, until a probationary calibration error test is passed following corrective actions in accordance with paragraph (b)(3)(ii) of this section), the owner or operator shall substitute the following values, as applicable, for each hour of unit operation during the period of invalid data specified in paragraph (a)(4)(iii) of this section or in § 75.21: The maximum potential concentration of SO_2, as defined in section 2.1.1.1 of appendix A to this part, to report SO_2 concentration; the maximum potential NO_X emission rate, as defined in § 72.2 of this chapter, to report NO_X emissions in lb/MMBtu; the maximum potential concentration of NO_X, as defined in section 2.1.2.1 of appendix A to this part, to report NO_X emissions in ppm (when a NO_X concentration monitoring system is used to determine NO_X mass emissions, as defined under § 75.71(a)(2)); the maximum potential concentration of Hg, as defined in section 2.1.7 of appendix A to this part, to report Hg emissions in μg/scm (when a Hg concentration monitoring system or a sorbent trap monitoring system is used to determine Hg mass emissions, as defined under § 75.81(b)); the maximum potential flow rate, as defined in section 2.1.4.1 of appendix A to this part, to report volumetric flow; the maximum potential concentration of CO_2, as defined in section 2.1.3.1 of appendix A to this part, to report CO_2 concentration data; and either the minimum potential moisture percentage, as defined in section 2.1.5 of appendix A to this part or, if Equation 19–3, 19–4 or 19–8 in Method 19 in appendix A to part 60 of this chapter is used to determine NO_X emission rate, the maximum potential moisture percentage, as defined in section 2.1.6 of appendix A to this part; and

* * * * *

(b) Recertification approval process. Whenever the owner or operator makes a replacement, modification, or change in a certified continuous emission monitoring system or continuous opacity monitoring system that may significantly affect the ability of the system to accurately measure or record the SO_2 or CO_2 concentration, stack gas volumetric flow rate, NO_X emission rate, NO_X concentration, Hg concentration, percent moisture, or opacity, or to meet the requirements of § 75.21 or appendix B to this part, the owner or operator shall recertify the continuous emission monitoring system or continuous opacity monitoring system, according to the procedures in this paragraph. * * *

* * * * *

(c) * * *

(1) For each SO_2 pollutant concentration monitor, each NO_X concentration monitoring system used to determine NO_X mass emissions, as defined under § 75.71(a)(2), each Hg concentration monitoring system, and each NO_X-diluent continuous emission monitoring system:

(i) A 7-day calibration error test, where, for the NO_X -diluent continuous emission monitoring system, the test is performed separately on the NO_X pollutant concentration monitor and the diluent gas monitor;

(ii) A linearity check, where, for the NO_X-diluent continuous emission monitoring system, the test is performed separately on the NO_X pollutant concentration monitor and the diluent gas monitor. For Hg monitors, perform this check with elemental Hg standards;

(iii) A relative accuracy test audit. For the NO_X-diluent continuous emission monitoring system, the RATA shall be done on a system basis, in units of lb/MMBtu. For the NO_X concentration monitoring system, the RATA shall be done on a ppm basis. For the Hg concentration monitoring system, the RATA shall be done on a μg/scm basis;

(iv) A bias test;

(v) A cycle time test; and

(vi) For Hg monitors only, a 3-level system integrity check, using a NIST-traceable source of oxidized Hg, as described in section 6.2 of appendix A to this part. This test is not required for an Hg monitor that does not have a converter.

* * * * *

(9) For each sorbent trap monitoring system, perform a RATA, on a μg/dscm basis, and a bias test.

* * * * *

(d) * * *

(2) * * *

(v) For each parameter monitored (*i.e.*, SO_2, CO_2, O_2, NO_X, Hg or flow rate) at each unit or stack, a regular non-redundant backup CEMS may not be used to report data at that affected unit or common stack for more than 720 hours in any one calendar year (or 720 hours in any ozone season, for sources that report emission data only during the ozone season, in accordance with § 75.74(c)), unless the CEMS passes a RATA at that unit or stack. For each parameter monitored at each unit or stack, the use of a like-kind replacement non-redundant backup analyzer (or analyzers) is restricted to 720 cumulative hours per calendar year (or ozone season, as applicable), unless the owner or operator redesignates the like-kind replacement analyzer(s) as component(s) of regular non-redundant backup CEMS and each redesignated CEMS passes a RATA at that unit or stack.

* * * * *

■ 23. Section 75.21 is amended by revising paragraph (a)(3) to read as follows:

§ 75.21 Quality assurance and quality control requirements.

(a) * * *

(3) The owner or operator shall perform quality assurance upon a reference method backup monitoring system according to the requirements of method 2, 6C, 7E, or 3A in appendix A of part 60 of this chapter (supplemented, as necessary, by guidance from the Administrator), or one of the Hg reference methods in § 75.22, as applicable, instead of the procedures specified in appendix B of this part.

* * * * *

■ 24. Section 75.22 is amended by adding new paragraphs (a)(7) and (b)(5), to read as follows:

§ 75.22 Reference test methods.

(a) * * *

(7) ASTM D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound, and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources" (also known as the

Ontario Hydro Method) (incorporated by reference, see § 75.6) is the reference method for determining Hg concentration. When this method is used, paired sampling trains are required, and to validate a RATA run, the relative deviation (RD), calculated according to section 11.7 of appendix K to this part, must not exceed 10 percent. If the RD criterion is met, use the average Hg concentration measured by the two trains (vapor phase Hg, only) in the relative accuracy calculations. Alternatively, an instrumental reference method capable of measuring total vapor phase Hg may be used, subject to the approval of the Administrator.

(b) * * *

(5) ASTM D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound, and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources" (also known as the Ontario Hydro Method and incorporated by reference, see § 75.6) for determining Hg concentration. Alternatively, an instrumental reference method capable of measuring total vapor phase Hg may be used, subject to the approval of the Administrator.

* * * * *

■ 25. Section 75.24 is amended by revising paragraph (d), to read as follows:

§ 75.24 Out-of-control periods and adjustment for system bias.

* * * * *

(d) When the bias test indicates that an SO_2 monitor, a flow monitor, a NO_X-diluent continuous emission monitoring system, a NO_X concentration monitoring system used to determine NO_X mass emissions, as defined in § 75.71(a)(2), a Hg concentration monitoring system or a sorbent trap monitoring system is biased low (*i.e.*, the arithmetic mean of the differences between the reference method value and the monitor or monitoring system measurements in a relative accuracy test audit exceed the bias statistic in section 7 of appendix A to this part), the owner or operator shall adjust the monitor or continuous emission monitoring system to eliminate the cause of bias such that it passes the bias test or calculate and use the bias adjustment factor as specified in section 2.3.4 of appendix B to this part.

* * * * *

■ 26. Section 75.31 is amended by:

■ a. Revising the first sentence of paragraph (a);

■ b. Revising paragraph (b) introductory text; and

■ c. Revising paragraphs (b)(1) and (b)(2).

The revisions read as follows:

§ 75.31 Initial missing data procedures.

(a) During the first 720 quality-assured monitor operating hours following initial certification of the required SO_2, CO_2, O_2, Hg concentration, or moisture monitoring system(s) at a particular unit or stack location (*i.e.*, the date and time at which quality-assured data begins to be recorded by CEMS(s) installed at that location), and during the first 2,160 quality-assured monitor operating hours following initial certification of the required NO_X-diluent, NO_X concentration, or flow monitoring system(s) at the unit or stack location, the owner or operator shall provide substitute data required under this subpart according to the procedures in paragraphs (b) and (c) of this section.

* * *

* * * * *

(b) SO_2, CO_2, or O_2 concentration data, Hg concentration data, and moisture data. For each hour of missing SO_2, Hg, or CO_2 emissions concentration data (including CO_2 data converted from O_2 data using the procedures in appendix F of this part), or missing O_2 or CO_2 diluent concentration data used to calculate heat input, or missing moisture data, the owner or operator shall calculate the substitute data as follows:

(1) Whenever prior quality-assured data exist, the owner or operator shall substitute, by means of the data acquisition and handling system, for each hour of missing data, the average of the hourly SO_2, CO_2, Hg, or O_2 concentrations, or moisture percentages recorded by a certified monitor for the unit operating hour immediately before and the unit operating hour immediately after the missing data period.

(2) Whenever no prior quality assured SO_2, CO_2, Hg, or O_2 concentration data, or moisture data exist, the owner or operator shall substitute, as applicable, for each hour of missing data, the maximum potential SO_2 concentration or the maximum potential CO_2 concentration or the minimum potential O_2 concentration or (unless Equation 19–3, 19–4 or 19–8 in Method 19 in appendix A to part 60 of this chapter is used to determine NO_X emission rate) the minimum potential moisture percentage, or the maximum potential Hg concentration, as specified, respectively, in sections 2.1.1.1, 2.1.3.1, 2.1.3.2, 2.1.5, and 2.1.7 of appendix A to this part. If Equation 19–3, 19–4 or 19–8 in Method 19 in appendix A to part 60 of this chapter is used to determine NO_X emission rate, substitute the maximum potential moisture percentage, as specified in section 2.1.6 of appendix A to this part.

* * * * *

■ 27. Section 75.32 is amended by revising the first sentence of paragraph (a) introductory text to read as follows:

§ 75.32 Determination of monitor data availability for standard missing data procedures.

(a) Following initial certification of the required SO_2, CO_2, O_2, or Hg concentration, or moisture monitoring system(s) at a particular unit or stack location (*i.e.*, the date and time at which quality-assured data begins to be recorded by CEMS(s) at that location), the owner or operator shall begin calculating the percent monitor data availability as described in paragraph (a)(1) of this section, and shall, upon completion of the first 720 quality-assured monitor operating hours, record, by means of the automated data acquisition and handling system, the percent monitor data availability for each monitored parameter. * * *

* * * * *

■ 28. Table 1 in § 75.33 is revised as follows:

§ 75.33 Standard missing data procedures for SO_2, NO_X, and flow rate.

* * * * *

TABLE 1.—MISSING DATA PROCEDURE FOR SO_2 CEMS, CO_2 CEMS, MOISTURE CEMS, HG CEMS, AND DILUENT (CO_2 OR O_2) MONITORS FOR HEAT INPUT DETERMINATION

Trigger conditions		Calculation routines	
Monitor data availability (percent)	Duration (N) of CEMS outage (hours)[2]	Method	Lookback period
95 or more (90 or more for Hg)	N ≤ 24	Average	HB/HA.
	N > 24	For SO_2, CO_2, Hg, and H_2O**, the greater of: Average	HB/HA.

TABLE 1.—MISSING DATA PROCEDURE FOR SO_2 CEMS, CO_2 CEMS, MOISTURE CEMS, HG CEMS, AND DILUENT (CO_2 OR O_2) MONITORS FOR HEAT INPUT DETERMINATION—Continued

Trigger conditions		Calculation routines	
Monitor data availability (percent)	Duration (N) of CEMS outage (hours)[2]	Method	Lookback period
90 or more, but below 95 (≥ 80 but < 90 for Hg)	N ≤ 8	90th percentile	720 hours*.
		For O_2 and H_2O[x], the lesser of:	
		Average	HB/HA.
		10th percentile	720 hours*.
	N > 8	Average	HB/HA.
		For SO_2, CO_2, Hg, and H_2O[**], the greater of:	
		Average	HB/HA.
		95th percentile	720 hours*.
		For O_2 and H_2O[x], the lesser of:	
		Average	HB/HA.
		5th percentile	720 hours*.
80 or more, but below 90 (≥70 but < 80 for Hg)	N > 0	For SO_2, CO_2, Hg, and H_2O[**],	
		Maximum value[1]	720 hours*.
		For O_2 and H_2O[x]:	
		Minimum value[1]	720 hours*.
Below 80 (Below 70 for Hg)	N > 0	Maximum potential concentration or % (for SO_2, CO_2, Hg, and H_2O[**]) or Minimum potential concentration or % (for O_2 and H_2O[x]).	None

HB/HA = hour before and hour after the CEMS outage.

* Quality-assured, monitor operating hours, during unit operation. May be either fuel-specific or non-fuel-specific. For units that report data only for the ozone season, include only quality assured monitor operating hours within the ozone season in the lookback period. Use data from no earlier than 3 years prior to the missing data period.

[1] Where a unit with add-on SO_2 or Hg emission controls can demonstrate that the controls are operating properly, as provided in § 75.34, the unit may, upon approval, use the maximum controlled emission rate from the previous 720 operating hours.

[2] During unit operating hours.

[x] Use this algorithm for moisture except when Equation 19–3, 19–4 or 19–8 in Method 19 in appendix A to part 60 of this chapter is used for NO_X emission rate.

[**] Use this algorithm for moisture only when Equation 19–3, 19–4 or 19–8 in Method 19 in appendix A to part 60 of this chapter is used for NO_X emission rate.

* * * * *

■ 29. Subpart D is further amended by adding two new sections, § 75.38 and § 75.39, to read as follows:

§ 75.38 Standard missing data procedures for Hg CEMS.

(a) Once 720 quality assured monitor operating hours of Hg concentration data have been obtained following initial certification, the owner or operator shall provide substitute data for Hg concentration in accordance with the procedures in §§ 75.33(b)(1) through (b)(4), except that the term "Hg concentration" shall apply rather than "SO_2 concentration," the term "Hg concentration monitoring system" shall apply rather than "SO_2 pollutant concentration monitor," and the term "maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part" shall apply, rather than "maximum potential SO_2 concentration."

(b) For a unit equipped with a flue gas desulfurization (FGD) system that significantly reduces the concentration of Hg emitted to the atmosphere (including circulating fluidized bed units that use limestone injection), or for a unit equipped with add-on Hg emission controls (e.g., carbon injection), the standard missing data procedures in paragraph (a) of this section may only be used for hours in which the SO_2 or Hg emission controls are documented to be operating properly, as described in § 75.58(b)(3). For any hour(s) in the missing data period for which this documentation is unavailable, the owner or operator shall report, as applicable, the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part. In addition, under § 75.64(c), the designated representative shall submit as part of each electronic quarterly report, a certification statement, verifying the proper operation of the SO_2 or Hg emission controls for each missing data period in which the procedures in paragraph (a) of this section are applied.

(c) For units with FGD systems or add-on Hg controls, when the percent monitor data availability is less than 80.0 percent, and a missing data period occurs, the owner or operator may petition to report the maximum controlled Hg concentration in the previous 720 quality-assured monitor operating hours, consistent with § 75.34(a)(3).

§ 75.39 Missing data procedures for sorbent trap monitoring systems.

(a) If a sorbent trap monitoring system has not been certified by the applicable compliance date specified under a State or Federal Hg mass emission reduction program that adopts the requirements of subpart I of this part, the owner or operator shall report the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part, until the system is certified.

(b) For a certified sorbent trap system, a missing data period will occur whenever:

(1) A gas sample is not extracted from the stack (*e.g.* during a monitoring system malfunction or when the system undergoes maintenance); or

(2) The results of the Hg analysis for the paired sorbent traps are missing or invalid (as determined using the quality assurance procedures in appendix K to this part). The missing data period begins with the hour in which the paired sorbent traps for which the Hg analysis is missing or invalid were put into service. The missing data period ends at the first hour in which valid Hg concentration data are obtained with another pair of sorbent traps (i.e., the hour at which this pair of traps was placed in service).

(c) *Initial missing data procedures.* Use these missing data procedures until 720 hours of quality-assured data have been collected with the sorbent trap monitoring system(s), following initial certification. For each hour of the missing data period, the substitute data value for Hg concentration shall be the average Hg concentration from all valid sorbent trap analyses to date, including data from the initial certification test runs.

(d) *Standard missing data procedures.* Once 720 quality-assured hours of data have been obtained with the sorbent trap system(s), begin reporting the percent monitor data availability in accordance with § 75.32 and switch from the initial missing data procedures in paragraph (c) of this section to the following standard missing data procedures:

(1) If the percent monitor data availability (PMA) is ≥ 90.0 percent, report the average Hg concentration for all valid sorbent trap analyses in the previous 12 months.

(2) If the PMA is ≥ 80.0 percent, but < 90.0 percent, report the 95th percentile Hg concentration obtained from all of the valid sorbent trap analyses in the previous 12 months.

(3) If the PMA is ≥ 70.0 percent, but < 80.0 percent, report the maximum Hg concentration obtained from all of the valid sorbent trap analyses in the previous 12 months.

(4) If the PMA is < 70.0 percent, report the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part.

(5) For the purposes of paragraphs (d)(1), (d)(2), and (d)(3) of this section, if fewer than 12 months have elapsed since initial certification, use whatever valid sorbent trap analyses are available to determine the appropriate substitute data values.

(e) Notwithstanding the requirements of paragraphs (c) and (d) of this section, if the unit has add-on Hg emission controls or is equipped with a flue gas desulfurization system that significantly reduces Hg emissions, the owner or operator shall report the maximum potential Hg concentration, as defined in section 2.1.7 of appendix A to this part, for any hour(s) in the missing data period for which proper operation of the Hg emission controls or FGD system is not documented according to § 75.58(b)(3).

■ 30. Section 75.53 is amended by:

■ a. Revising paragraph (e)(1)(i)(E);

■ b. Revising paragraph (e)(1)(iv) introductory text; and

■ c. Revising paragraph (e)(1)(x).

The revisions read as follows:

§ 75.53 Monitoring plan.

* * * * *

(e) * * *

(1) * * *

(i) * * *

(E) Type(s) of emission controls for SO_2, NO_X, Hg, and particulates installed or to be installed, including specifications of whether such controls are pre-combustion, post-combustion, or integral to the combustion process; control equipment code, installation date, and optimization date; control equipment retirement date (if applicable); primary/secondary controls indicator; and an indicator for whether the controls are an original installation;

* * * * *

(iv) Identification and description of each monitoring component (including each monitor and its identifiable components, such as analyzer and/or probe) in the CEMS (*e.g.*, SO_2 pollutant concentration monitor, flow monitor, moisture monitor; NO_X pollutant concentration monitor, Hg monitor, and diluent gas monitor), the sorbent trap monitoring system, the continuous opacity monitoring system, or the excepted monitoring system (*e.g.*, fuel flowmeter, data acquisition and handling system), including:

* * * * *

(x) For each parameter monitored: Scale, maximum potential concentration (and method of calculation), maximum expected concentration (if applicable) (and method of calculation), maximum potential flow rate (and method of calculation), maximum potential NO_X emission rate, span value, full-scale range, daily calibration units of measure, span effective date/hour, span inactivation date/hour, indication of whether dual spans are required, default high range value, flow rate span, and flow rate span value and full scale value (in scfh) for each unit or stack using SO_2, NO_X, CO_2, O_2, Hg, or flow component monitors.

* * * * *

■ 31. Section 75.57 is amended by adding new paragraphs (i) and (j), to read as follows:

§ 75.57 General recordkeeping provisions.

* * * * *

(i) *Hg emission record provisions (CEMS).* The owner or operator shall record for each hour the information required by this paragraph for each affected unit using Hg CEMS in combination with flow rate, and (in certain cases) moisture, and diluent gas monitors, to determine Hg mass emissions and (if applicable) unit heat input under a State or Federal Hg mass emissions reduction program that adopts the requirements of subpart I of this part.

(1) For Hg concentration during unit operation, as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination:

(i) Component-system identification code, as provided in § 75.53;

(ii) Date and hour;

(iii) Hourly Hg concentration (μg/scm, rounded to the nearest tenth). For a particular pair of sorbent traps, this will be the flow-proportional average concentration for the data collection period;

(iv) The bias-adjusted hourly average Hg concentration (μg/scm, rounded to the nearest hundredth) if a bias adjustment factor is required, as provided in § 75.24(d);

(v) Method of determination for hourly Hg concentration using Codes 1–55 in Table 4a of this section; and

(vi) The percent monitor data availability (to the nearest tenth of a percent), calculated pursuant to § 75.32.

(2) For flue gas moisture content during unit operation (if required), as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination (except where a default moisture value is used in accordance with § 75.11(b), § 75.12(b), or approved under § 75.66):

(i) Component-system identification code, as provided in § 75.53;

(ii) Date and hour;

(iii) Hourly average moisture content of flue gas (percent, rounded to the nearest tenth). If the continuous moisture monitoring system consists of wet- and dry-basis oxygen analyzers, also record both the wet- and dry-basis oxygen hourly averages (in percent O_2, rounded to the nearest tenth);

(iv) Percent monitor data availability (recorded to the nearest tenth of a percent) for the moisture monitoring system, calculated pursuant to § 75.32; and

(v) Method of determination for hourly average moisture percentage, using Codes 1–55 in Table 4a of this section.

(3) For diluent gas (O_2 or CO_2) concentration during unit operation (if required), as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination:

(i) Component-system identification code, as provided in § 75.53;

(ii) Date and hour;

(iii) Hourly average diluent gas (O_2 or CO_2) concentration (in percent, rounded to the nearest tenth);

(iv) Method of determination code for diluent gas (O_2 or CO_2) concentration data using Codes 1–55, in Table 4a of this section; and

(v) The percent monitor data availability (to the nearest tenth of a percent) for the O_2 or CO_2 monitoring system (if a separate O_2 or CO_2 monitoring system is used for heat input determination), calculated pursuant to § 75.32.

(4) For stack gas volumetric flow rate during unit operation, as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination, record the information required under paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(5) For Hg mass emissions during unit operation, as measured and reported from the certified primary monitoring system(s), certified redundant or non-redundant back-up monitoring system(s), or other approved method(s) of emissions determination:

(i) Date and hour;

(ii) Hourly Hg mass emissions (ounces, rounded to three decimal places);

(iii) Hourly Hg mass emissions (ounces, rounded to three decimal places), adjusted for bias if a bias adjustment factor is required, as provided in § 75.24(d); and

(iv) Identification code for emissions formula used to derive hourly Hg mass emissions from Hg concentration, flow rate and moisture data, as provided in § 75.53.

(j) *Hg emission record provisions (sorbent trap systems).* The owner or operator shall record for each hour the information required by this paragraph, for each affected unit using sorbent trap monitoring systems in combination with flow rate, moisture, and (in certain cases) diluent gas monitors, to determine Hg mass emissions and (if required) unit heat input under a State or Federal Hg mass emissions reduction program that adopts the requirements of subpart I of this part.

(1) For Hg concentration during unit operation, as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination:

(i) Component-system identification code, as provided in § 75.53;

(ii) Date and hour;

(iii) Hourly Hg concentration (μg/dscm, rounded to the nearest tenth). For a particular pair of sorbent traps, this will be the flow-proportional average concentration for the data collection period;

(iv) The bias-adjusted hourly average Hg concentration (μg/dscm, rounded to the nearest tenth) if a bias adjustment factor is required, as provided in § 75.24(d);

(v) Method of determination for hourly average Hg concentration using Codes 1–55 in Table 4a of this section; and

(vi) Percent monitor data availability (recorded to the nearest tenth of a percent), calculated pursuant to § 75.32;

(2) For flue gas moisture content during unit operation, as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination (except where a default moisture value is used in accordance with § 75.11(b), § 75.12(b), or approved under § 75.66), record the information required under paragraphs (i)(2)(i) through (i)(2)(v) of this section;

(3) For diluent gas (O_2 or CO_2) concentration during unit operation (if required for heat input determination), record the information required under paragraphs (i)(3)(i) through (i)(3)(v) of this section.

(4) For stack gas volumetric flow rate during unit operation, as measured and reported from each certified primary monitor, certified back-up monitor, or other approved method of emissions determination, record the information required under paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(5) For Hg mass emissions during unit operation, as measured and reported from the certified primary monitoring system(s), certified redundant or non-redundant back-up monitoring system(s), or other approved method(s) of emissions determination, record the information required under paragraph (i)(5) of this section.

(6) Record the average flow rate of stack gas through each sorbent trap (in appropriate units, *e.g.*, liters/min, cc/min, dscm/min).

(7) Record the dry gas meter reading (in dscm, rounded to the nearest hundredth), at the beginning and end of the collection period and at least once in each unit operating hour during the collection period.

(8) Calculate and record the ratio of the bias-adjusted stack gas flow rate to the sample flow rate, as described in section 11.2 of appendix K to this part.

■ 32. Section 75.58 is amended by revising paragraphs (b)(3) introductory text, (b)(3)(i), and (b)(3)(ii), to read as follows:

§ 75.58 General recordkeeping provisions for specific situations.

* * * * *

(b) * * *

(3) Except as otherwise provided in § 75.34 (d), for units with add-on SO_2 or NO_X emission controls following the provisions of § 75.34(a)(1), (a)(2) or (a)(3), or for units with add-on Hg emission controls, the owner or operator shall record:

(i) Parametric data which demonstrate, for each hour of missing SO_2, Hg, or NO_X emission data, the proper operation of the add-on emission controls, as described in the quality assurance/quality control program for the unit. The parametric data shall be maintained on site and shall be submitted, upon request, to the Administrator, EPA Regional office, State, or local agency. Alternatively, for units equipped with flue gas desulfurization (FGD) systems, the owner or operator may use quality-assured data from a certified SO_2 monitor to demonstrate proper operation of the emission controls during periods of missing Hg data;

(ii) A flag indicating, for each hour of missing SO_2, Hg, or NO_X emission data, either that the add-on emission controls are operating properly, as evidenced by all parameters being within the ranges specified in the quality assurance/quality control program, or that the add-on emission controls are not operating properly;

* * * * *

■ 33. Section 75.59 is amended by:

■ a. Revising the introductory text of paragraphs (a)(1), (a)(3), (a)(5), (a)(5)(ii), (a)(6), and (a)(9);

■ b. Adding paragraphs (a)(7)(vii), (a)(7)(viii), and (a)(14);

■ c. Revising paragraph (a)(9)(vi); and

■ d. Revising the introductory text of paragraph (c).

The revisions read as follows:

§ 75.59 Certification, quality assurance, and quality control record provisions.

* * * * *

(a) * * *

(1) For each SO_2 or NO_X pollutant concentration monitor, flow monitor, CO_2 emissions concentration monitor (including O_2 monitors used to determine CO_2 emissions), Hg monitor, or diluent gas monitor (including wet- and dry-basis O_2 monitors used to determine percent moisture), the owner or operator shall record the following for all daily and 7-day calibration error tests, all daily system integrity checks (Hg monitors, only), and all off-line calibration demonstrations, including any follow-up tests after corrective action:

* * * * *

(3) For each SO_2 or NO_X pollutant concentration monitor, CO_2 emissions

concentration monitor (including O_2 monitors used to determine CO_2 emissions), Hg concentration monitor, or diluent gas monitor (including wet- and dry-basis O_2 monitors used to determine percent moisture), the owner or operator shall record the following for the initial and all subsequent linearity check(s) and 3-level system integrity checks (Hg monitors with converters, only), including any follow-up tests after corrective action:

* * * * *

(5) For each SO_2 pollutant concentration monitor, flow monitor, each CO_2 emissions concentration monitor (including any O_2 concentration monitor used to determine CO_2 mass emissions or heat input), each NO_X-diluent continuous emission monitoring system, each NO_X concentration monitoring system, each diluent gas (O_2 or CO_2) monitor used to determine heat input, each moisture monitoring system, each Hg concentration monitoring system, each sorbent trap monitoring system, and each approved alternative monitoring system, the owner or operator shall record the following information for the initial and all subsequent relative accuracy test audits:

* * * * *

(ii) Individual test run data from the relative accuracy test audit for the SO_2 concentration monitor, flow monitor, CO_2 emissions concentration monitor, NO_X-diluent continuous emission monitoring system, SO_2-diluent continuous emission monitoring system, diluent gas (O_2 or CO_2) monitor used to determine heat input, NO_X concentration monitoring system, moisture monitoring system, Hg concentration monitoring system, sorbent trap monitoring system, or approved alternative monitoring system, including:

* * * * *

(6) For each SO_2, NO_X, Hg, or CO_2 emissions concentration monitor, NO_X-diluent continuous emission monitoring system, NO_X concentration monitoring system, or diluent gas (O_2 or CO_2) monitor used to determine heat input, the owner or operator shall record the following information for the cycle time test:

* * * * *

(7) * * *

(vii) For each RATA run using the Ontario Hydro Method to determine Hg concentration:

(A) Percent CO_2 and O_2 in the stack gas, dry basis;

(B) Moisture content of the stack gas (percent H_2O);

(C) Average stack temperature (°F);

(D) Dry gas volume metered (dscm);

(E) Percent isokinetic;

(F) Particle-bound Hg collected by the filter, blank, and probe rinse (μg);

(G) Oxidized Hg collected by the KCl impingers (μg);

(H) Elemental Hg collected in the HNO_3/H_2O_2 impinger and in the $KMnO_4/H_2SO_4$ impingers (μg);

(I) Total Hg, including particle-bound Hg (μg); and

(J) Total Hg, excluding particle-bound Hg (μg)

(viii) *Data elements for instrumental Hg reference method.* [Reserved]

* * * * *

(9) When hardcopy relative accuracy test reports, certification reports, recertification reports, or semiannual or annual reports for gas or flow rate CEMS, Hg CEMS, or sorbent trap monitoring systems are required or requested under § 75.60(b)(6) or § 75.63, the reports shall include, at a minimum, the following elements (as applicable to the type(s) of test(s) performed:

* * * * *

(vi) Laboratory calibrations of the source sampling equipment. For sorbent trap monitoring systems, the laboratory analyses of all sorbent traps, and information documenting the results of all leak checks and other applicable quality control procedures.

* * * * *

(14) For the sorbent traps used in sorbent trap monitoring systems to quantify Hg concentration under subpart I of this part (including sorbent traps used for relative accuracy testing), the owner or operator shall keep records of the following:

(i) The ID number of the monitoring system in which each sorbent trap was used to collect Hg;

(ii) The unique identification number of each sorbent trap;

(iii) The beginning and ending dates and hours of the data collection period for each sorbent trap;

(iv) The average Hg concentration (in μg/dscm) for the data collection period;

(v) Information documenting the results of the required leak checks;

(vi) The analysis of the Hg collected by each sorbent trap; and

(vii) Information documenting the results of the other applicable quality control procedures in § 75.15 and in appendices B and K to this part.

* * * * *

(c) Except as otherwise provided in § 75.58(b)(3)(i), units with add-on SO_2 or NO_X emission controls following the provisions of § 75.34(a)(1) or (a)(2), and for units with add-on Hg emission controls, the owner or operator shall keep the following records on-site in the quality assurance/quality control plan required by section 1 of appendix B to this part: * * *

* * * * *

■ 34. Part 75 is amended by adding Subpart I, to read as follows:

Subpart I—Hg Mass Emission Provisions

Sec.

Subpart I—Hg Mass Emission Provisions

§ 75.80 General provisions.

(a) *Applicability.* The owner or operator of a unit shall comply with the requirements of this subpart to the extent that compliance is required by an applicable State or Federal Hg mass emission reduction program that incorporates by reference, or otherwise adopts the provisions of, this subpart.

(1) For purposes of this subpart, the term "affected unit" shall mean any coal-fired unit (as defined in § 72.2 of this chapter) that is subject to a State or Federal Hg mass emission reduction program requiring compliance with this subpart. The term "non-affected unit" shall mean any unit that is not subject to such a program, the term "permitting authority" shall mean the permitting authority under an applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart, and the term "designated representative" shall mean the responsible party under the applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(2) In addition, the provisions of subparts A, C, D, E, F, and G and appendices A through G of this part applicable to Hg concentration, flow rate, moisture, diluent gas concentration, and heat input, as set forth and referenced in this subpart, shall apply to the owner or operator of a unit required to meet the requirements of this subpart by a State or Federal Hg mass emission reduction program. The requirements of this part for SO_2, NO_X, CO_2 and opacity monitoring, recordkeeping and reporting do not apply to units that are subject only to a State or Federal Hg mass emission reduction program that adopts the requirements of this subpart, but are not affected units under the Acid Rain Program or under a State or Federal

NO_X mass emission reduction program that adopts the requirements of subpart H of this part.

(b) *Compliance dates.* The owner or operator of an affected unit shall meet the compliance deadlines established by an applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(c) *Prohibitions.* (1) No owner or operator of an affected unit or a non-affected unit under § 75.82(b)(2)(ii) shall use any alternative monitoring system, alternative reference method, or any other alternative for the required continuous emission monitoring system without having obtained prior written approval in accordance with paragraph (h) of this section.

(2) No owner or operator of an affected unit or a non-affected unit under § 75.82(b)(2)(ii) shall operate the unit so as to discharge, or allow to be discharged emissions of Hg to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this part.

(3) No owner or operator of an affected unit or a non-affected unit under § 75.82(b)(2)(ii) shall disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording Hg mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the provisions of this part applicable to monitoring systems under § 75.81.

(4) No owner or operator of an affected unit or a non-affected unit under § 75.82(b)(2)(ii) shall retire or permanently discontinue use of the continuous emission monitoring system, any component thereof, or any other approved emission monitoring system under this part, except under any one of the following circumstances:

(i) During the period that the unit is covered by a retired unit exemption that is in effect under the State or Federal Hg mass emission reduction program that adopts the requirements of this subpart; or

(ii) The owner or operator is monitoring Hg mass emissions from the affected unit with another certified monitoring system approved, in accordance with the provisions of paragraph (d) of this section; or

(iii) The designated representative submits notification of the date of certification testing of a replacement monitoring system in accordance with § 75.61.

(d) *Initial certification and recertification procedures.* (1) The owner or operator of an affected unit that is subject to the Acid Rain Program or to a State or Federal NO_X mass emission reduction program that adopts the requirements of subpart H of this part shall comply with the applicable initial certification and recertification procedures in § 75.20 and § 75.70(d), except that the owner or operator shall meet any additional requirements for Hg concentration monitoring systems, sorbent trap monitoring systems (as defined in § 72.2 of this chapter), flow monitors, CO_2 monitors, O_2 monitors, or moisture monitors, as set forth under § 75.81, under the common stack provisions in § 75.82, or under an applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(2) The owner or operator of an affected unit that is not subject to the Acid Rain Program or to a State or Federal NO_X mass emission reduction program that adopts the requirements of subpart H of this part shall comply with the initial certification and recertification procedures established by an applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(e) *Quality assurance and quality control requirements.* For units that use continuous emission monitoring systems to account for Hg mass emissions, the owner or operator shall meet the applicable quality assurance and quality control requirements in § 75.21 and appendix B to this part for the flow monitoring systems, Hg concentration monitoring systems, moisture monitoring systems, and diluent monitors required under § 75.81. Units using sorbent trap monitoring systems shall meet the applicable quality assurance requirements in § 75.15, appendix K to this part, and sections 1.5 and 2.3 of appendix B to this part.

(f) *Missing data procedures.* Except as provided in § 75.38(b) and paragraph (g) of this section, the owner or operator shall provide substitute data from monitoring systems required under § 75.81 for each affected unit as follows:

(1) For an owner or operator using an Hg concentration monitoring system, substitute for missing data in accordance with the applicable missing data procedures in §§ 75.31 through 75.38 whenever the unit combusts fuel and:

(i) A valid, quality-assured hour of Hg concentration data (in µg/scm) has not been measured and recorded, either by a certified Hg concentration monitoring system, by an appropriate EPA reference method under § 75.22, or by an approved alternative monitoring method under subpart E of this part; or

(ii) A valid, quality-assured hour of flow rate data (in scfh) has not been measured and recorded for a unit either by a certified flow monitor, by an appropriate EPA reference method under § 75.22, or by an approved alternative monitoring system under subpart E of this part; or

(iii) A valid, quality-assured hour of moisture data (in percent H_2O) has not been measured or recorded for an affected unit, either by a certified moisture monitoring system, by an appropriate EPA reference method under § 75.22, or an approved alternative monitoring method under subpart E of this part. This requirement does not apply when a default percent moisture value, as provided in § 75.11(b) or § 75.12(b), is used to account for the hourly moisture content of the stack gas, or when correction of the Hg concentration for moisture is not necessary; or

(iv) A valid, quality-assured hour of heat input rate data (in MMBtu/hr) has not been measured and recorded for a unit, either by certified flow rate and diluent (CO_2 or O_2) 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 CO_2 concentration, as defined in section 2.1.3.1 of appendix A to this part, the minimum potential O_2 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):

(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 O_2 or CO_2 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 SO_2 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/μg-scf

8760 = Number of hours in a year

C_{Hg} = The highest Hg concentration (μg/scm) from any of the test runs or 0.50 μg/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 μg/scm, a default value of 0.50 μg/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 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.

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

(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 μg/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 μg/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 μg/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 μg/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/scm, 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 the difference between Hg mass emissions measured in the common stack and Hg mass emissions measured in the ducts of the non-affected units, not to be reported as an hourly value less than zero. The permitting authority and the Administrator may approve such a method whenever the designated representative demonstrates, to the satisfaction of the permitting authority and the Administrator, that the method ensures that the Hg mass emissions from the affected units are not underestimated; or

(ii) Count the combined emissions measured at the common stack as the Hg mass emissions for the affected units, for recordkeeping and compliance purposes, in accordance with paragraph (a) of this section; or

(iii) Submit a petition to the permitting authority and the Administrator to allow use of a method for apportioning Hg mass emissions measured in the common stack to each of the units using the common stack and for reporting the Hg mass emissions. The permitting authority and the Administrator may approve such a method whenever the designated representative demonstrates, to the satisfaction of the permitting authority and the Administrator, that the method ensures that the Hg mass emissions from the affected units are not underestimated.

(c) *Unit with a main stack and a bypass stack.* Whenever any portion of the flue gases from an affected unit can be routed through a bypass stack to avoid the Hg monitoring system(s) installed on the main stack, the owner and operator shall either:

(1) Install, certify, operate, and maintain the monitoring systems described in § 75.81(a) on both the main stack and the bypass stack and calculate Hg mass emissions for the unit as the sum of the Hg mass emissions measured at the two stacks;

(2) Install, certify, operate, and maintain the monitoring systems described in § 75.81(a) at the main stack and measure Hg mass emissions at the bypass stack using the appropriate reference methods in § 75.22(b). Calculate Hg mass emissions for the unit as the sum of the emissions recorded by the installed monitoring systems on the main stack and the emissions measured by the reference method monitoring systems; or

(3) 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) only on the main stack. If this option is chosen, it is not necessary to designate the exhaust configuration as a multiple stack configuration in the monitoring plan required under § 75.53, since only the main stack is monitored. For each unit operating hour in which the bypass stack is used, report, as applicable, the maximum potential Hg concentration (as defined in section 2.1.7 of appendix A to this part), and the appropriate substitute data values for flow rate, CO_2 concentration, O_2 concentration, and moisture (as applicable), in accordance with the missing data procedures of §§ 75.31 through 75.37.

(d) *Unit with multiple stack or duct configuration.* When the flue gases from an affected unit discharge to the atmosphere through more than one stack, or when the flue gases from an affected unit utilize two or more ducts feeding into a single stack and the owner or operator chooses to monitor in the ducts rather than in the stack, 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 each of the multiple stacks and determine Hg mass emissions from the affected unit as the sum of the Hg mass emissions recorded for each stack. If another unit also exhausts flue gases into one of the monitored stacks, the owner or operator shall comply with the applicable requirements of paragraphs (a) and (b) of this section, in order to properly determine the Hg mass emissions from the units using that stack; 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 each of the ducts that feed into the stack, and determine Hg mass emissions from the affected unit using the sum of the Hg mass emissions measured at each duct, except that where another unit also exhausts flue gases to one or more of the stacks, the owner or operator shall also comply with the applicable requirements of paragraphs (a) and (b) of this section to determine and record Hg mass emissions from the units using that stack.

§ 75.83 Calculation of Hg mass emissions and heat input rate.

The owner or operator shall calculate Hg mass emissions and heat input rate in accordance with the procedures in sections 9.1 through 9.3 of appendix F to this part.

§ 75.84 Recordkeeping and reporting.

(a) *General recordkeeping provisions.* The owner or operator of any affected unit shall maintain for each affected unit and each non-affected unit under § 75.82(b)(2)(ii) a file of all measurements, data, reports, and other information required by this part at the source in a form suitable for inspection for at least 3 years from the date of each record. Except for the certification data required in § 75.57(a)(4) and the initial submission of the monitoring plan required in § 75.57(a)(5), the data shall be collected beginning with the earlier of the date of provisional certification or the compliance deadline in § 75.80(b). The certification data required in § 75.57(a)(4) shall be collected beginning with the date of the first certification test performed. The file shall contain the following information:

(1) The information required in §§ 75.57(a)(2), (a)(4), (a)(5), (a)(6), (b), (c)(2), (g) (if applicable), (h), and (i) or (j) (as applicable). For the information in § 75.57(a)(2), replace the phrase "the deadline in § 75.4(a), (b) or (c)" with the phrase "the applicable certification deadline under the State or Federal Hg mass emission reduction program";

(2) The information required in § 75.58(b)(3), for units with flue gas desulfurization systems or add-on Hg emission controls;

(3) For affected units using Hg CEMS or sorbent trap monitoring systems, for each hour when the unit is operating, record the Hg mass emissions, calculated in accordance with section 9 of appendix F to this part.

(4) Heat input and Hg methodologies for the hour; and

(5) Formulas from monitoring plan for total Hg mass emissions and heat input rate (if applicable);

(b) *Certification, quality assurance and quality control record provisions.* The owner or operator of any affected

unit shall record the applicable information in § 75.59 for each affected unit or group of units monitored at a common stack and each non-affected unit under § 75.82(b)(2)(ii).

(c) *Monitoring plan recordkeeping provisions.* (1) *General provisions.* The owner or operator of an affected unit shall prepare and maintain a monitoring plan for each affected unit or group of units monitored at a common stack and each non-affected unit under § 75.82(b)(2)(ii). The monitoring plan shall contain sufficient information on the continuous monitoring systems and the use of data derived from these systems to demonstrate that all the unit's Hg emissions are monitored and reported.

(2) *Updates.* Whenever the owner or operator makes a replacement, modification, or change in a certified continuous monitoring system or alternative monitoring system under subpart E of this part, including a change in the automated data acquisition and handling system or in the flue gas handling system, that affects information reported in the monitoring plan (*e.g.*, a change to a serial number for a component of a monitoring system), then the owner or operator shall update the monitoring plan.

(3) *Contents of the monitoring plan.* Each monitoring plan shall contain the information in § 75.53(e)(1) in electronic format and the information in § 75.53(e)(2) in hardcopy format.

(d) *General reporting provisions.* (1) The designated representative for an affected unit shall comply with all reporting requirements in this section and with any additional requirements set forth in an applicable State or Federal Hg mass emission reduction program that adopts the requirements of this subpart.

(2) The designated representative for an affected unit shall submit the following for each affected unit or group of units monitored at a common stack and each non-affected unit under § 75.82(b)(2)(ii):

(i) Initial certification and recertification applications in accordance with § 75.80(d);

(ii) Monitoring plans in accordance with paragraph (e) of this section; and

(iii) Quarterly reports in accordance with paragraph (f) of this section.

(3) *Other petitions and communications.* The designated representative for an affected unit shall submit petitions, correspondence, application forms, and petition-related test results in accordance with the provisions in § 75.80(h).

(4) *Quality assurance RATA reports.* If requested by the permitting authority, the designated representative of an affected unit shall submit the quality assurance RATA report for each affected unit or group of units monitored at a common stack and each non-affected unit under § 75.82(b)(2)(ii) by the later of 45 days after completing a quality assurance RATA according to section 2.3 of appendix B to this part or 15 days of receiving the request. The designated representative shall report the hardcopy information required by § 75.59(a)(9) to the permitting authority.

(5) *Notifications.* The designated representative for an affected unit shall submit written notice to the permitting authority according to the provisions in § 75.61 for each affected unit or group of units monitored at a common stack and each non-affected unit under § 75.82(b)(2)(ii).

(e) *Monitoring plan reporting.* (1) *Electronic submission.* The designated representative for an affected unit shall submit to the Administrator a complete, electronic, up-to-date monitoring plan file for each affected unit or group of units monitored at a common stack and each non-affected unit under § 75.82(b)(2)(ii), as follows: No later than 45 days prior to the commencement of initial certification testing; at the time of a certification or recertification application submission; and whenever an update of the electronic monitoring plan is required, either under § 75.53 or elsewhere in this part.

(2) *Hardcopy submission.* The designated representative of an affected unit shall submit all of the hardcopy information required under § 75.53, for each affected unit or group of units monitored at a common stack and each non-affected unit under § 75.82(b)(2)(ii), to the permitting authority prior to initial certification. Thereafter, the designated representative shall submit hardcopy information only if that portion of the monitoring plan is revised. The designated representative shall submit the required hardcopy information as follows: no later than 45 days prior to the commencement of initial certification testing; with any certification or recertification application, if a hardcopy monitoring plan change is associated with the recertification event; and within 30 days of any other event with which a hardcopy monitoring plan change is associated, pursuant to § 75.53(b). Electronic submittal of all monitoring plan information, including hardcopy portions, is permissible provided that a paper copy of the hardcopy portions can be furnished upon request.

(f) *Quarterly reports.* (1) *Electronic submission.* Electronic quarterly reports shall be submitted, beginning with the calendar quarter containing the compliance date in § 75.80(b), unless otherwise specified in the final rule implementing a State or Federal Hg mass emissions reduction program that adopts the requirements of this subpart. The designated representative for an affected unit shall report the data and information in this paragraph (f)(1) and the applicable compliance certification information in paragraph (f)(2) of this section to the Administrator quarterly. Each electronic report must be submitted to the Administrator within 30 days following the end of each calendar quarter. Each electronic report shall include the date of report generation and the following information for each affected unit or group of units monitored at a common stack.

(i) The facility information in § 75.64(a)(1); and

(ii) The information and hourly data required in paragraph (a) of this section, except for:

(A) Descriptions of adjustments, corrective action, and maintenance;

(B) Information which is incompatible with electronic reporting (*e.g.*, field data sheets, lab analyses, quality control plan);

(C) For units with flue gas desulfurization systems or with add-on Hg emission controls, the parametric information in § 75.58(b)(3);

(D) Information required by § 75.57(h) concerning the causes of any missing data periods and the actions taken to cure such causes;

(E) Hardcopy monitoring plan information required by § 75.53 and hardcopy test data and results required by § 75.59;

(F) Records of flow polynomial equations and numerical values required by § 75.59(a)(5)(vi);

(G) Stratification test results required as part of the RATA supplementary records under § 75.59(a)(7);

(H) Data and results of RATAs that are aborted or invalidated due to problems with the reference method or operational problems with the unit and data and results of linearity checks that are aborted or invalidated due to operational problems with the unit;

(I) Supplementary RATA information required under § 75.59(a)(7)(i) through § 75.59(a)(14), as applicable, except that: The data under § 75.59(a)(7)(ii)(A) through (T) and the data under § 75.59(a)(7)(iii)(A) through (M) shall, as applicable, be reported for flow RATAs in which angular compensation (measurement of pitch and/or yaw angles) is used and for flow RATAs in which a site-specific wall effects

adjustment factor is determined by direct measurement; and the data under § 75.59(a)(7)(ii)(T) shall be reported for all flow RATAs in which a default wall effects adjustment factor is applied;

(J) For units using sorbent trap monitoring systems, the hourly dry gas meter readings taken between the initial and final meter readings for the data collection period; and

(iii) Ounces of Hg emitted during quarter and cumulative ounces of Hg emitted in the year-to-date (rounded to the nearest thousandth); and

(iv) Unit or stack operating hours for quarter, cumulative unit or stack operating hours for year-to-date; and

(v) Reporting period heat input (if applicable) and cumulative, year-to-date heat input.

(2) *Compliance certification.* (i) The designated representative shall certify that the monitoring plan information in each quarterly electronic report (*i.e.*, component and system identification codes, formulas, etc.) represent current operating conditions for the affected unit(s)

(ii) The designated representative shall submit and sign a compliance certification in support of each quarterly emissions monitoring report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(A) The monitoring data submitted were recorded in accordance with the applicable requirements of this part, including the quality assurance procedures and specifications; and

(B) With regard to a unit with an FGD system or with add-on Hg emission controls, that for all hours where data are substituted in accordance with § 75.38(b), the add-on emission controls were operating within the range of parameters listed in the quality-assurance plan for the unit (or that quality-assured SO_2 CEMS data were available to document proper operation of the emission controls), and that the substitute values do not systematically underestimate Hg emissions.

(3) *Additional reporting requirements.* The designated representative shall also comply with all of the quarterly reporting requirements in §§ 75.64(d), (f), and (g).

■ 35. Appendix A to part 75 is amended by revising the title of section 1.1 and revising the second sentence of section 1.1 introductory text, to read as follows:

Appendix A to Part 75—Specifications and Test Procedures

1. Installation and Measurement Location.

1.1 Gas and Hg Monitors

* * * Select a representative measurement point or path for the monitor probe(s) (or for the path from the transmitter to the receiver) such that the SO_2, CO_2, O_2, and NO_X concentration monitoring system or NO_X-diluent CEMS (NO_X pollutant concentration monitor and diluent gas monitor), Hg concentration monitoring system, or sorbent trap monitoring system will pass the relative accuracy test (see section 6 of this appendix).

* * * * *

■ 36. Appendix A to part 75 is further amended by adding new sections 2.1.7 through 2.1.7.4 and 2.2.3, to read as follows:

Appendix A to Part 75—Specification and Test Procedures

2. Equipment Specifications.

* * * * *

2.1.7 Hg Monitors

Determine the appropriate span and range value(s) for each Hg pollutant concentration monitor, so that all expected Hg concentrations can be determined accurately.

2.1.7.1 Maximum Potential Concentration

(a) The maximum potential concentration depends upon the type of coal combusted in the unit. For the initial MPC determination, there are three options:

(1) Use one of the following default values: 9 μg/scm for bituminous coal; 10 μg/scm for sub-bituminous coal; 16 μg/scm for lignite, and 1 μg/scm for waste coal, *i.e.*, anthracite culm or bituminous gob. If different coals are blended, use the highest MPC for any fuel in the blend; or

(2) You may base the MPC on the results of site-specific emission testing using the one of the Hg reference methods in § 75.22, if the unit does not have add-on Hg emission controls or a flue gas desulfurization system, or if you test upstream of these control devices. A minimum of 3 test runs are required, at the normal operating load. Use the highest total Hg concentration obtained in any of the tests as the MPC; or

(3) You may base the MPC on 720 or more hours of historical CEMS data or data from a sorbent trap monitoring system, if the unit does not have add-on Hg emission controls or a flue gas desulfurization system (or if the CEMS or sorbent trap system is located upstream of these control devices) and if the Hg CEMS or sorbent trap system has been tested for relative accuracy against one of the Hg reference methods in § 75.22 and has met a relative accuracy specification of 20.0% or less.

(b) For the purposes of missing data substitution, the fuel-specific or site-specific MPC values defined in paragraph (a) of this section apply to units using sorbent trap monitoring systems.

2.1.7.2 Maximum Expected Concentration

For units with FGD systems that significantly reduce Hg emissions (including fluidized bed units that use limestone injection) and for units equipped with add-on Hg emission controls (*e.g.*, carbon injection), determine the maximum expected Hg concentration (MEC) during normal, stable operation of the unit and emission controls. To calculate the MEC, substitute the MPC value from section 2.1.7.1 of this appendix into Equation A–2 in section 2.1.1.2 of this appendix. For units with add-on Hg emission controls, base the percent removal efficiency on design engineering calculations. For units with FGD systems, use the best available estimate of the Hg removal efficiency of the FGD system.

2.1.7.3 Span and Range Value(s)

(a) For each Hg monitor, determine a high span value, by rounding the MPC value from section 2.1.7.1 of this appendix upward to the next highest multiple of 10 μg/scm.

(b) For an affected unit equipped with an FGD system or a unit with add-on Hg emission controls, if the MEC value from section 2.1.7.2 of this appendix is less than 20 percent of the high span value from paragraph (a) of this section, and if the high span value is 20 μg/scm or greater, define a second, low span value of 10 μg/scm.

(c) If only a high span value is required, set the full-scale range of the Hg analyzer to be greater than or equal to the span value.

(d) If two span values are required, you may either:

(1) Use two separate (high and low) measurement scales, setting the range of each scale to be greater than or equal to the high or low span value, as appropriate; or

(2) Quality-assure two segments of a single measurement scale.

2.1.7.4 Adjustment of Span and Range

For each affected unit or common stack, the owner or operator shall make a periodic evaluation of the MPC, MEC, span, and range values for each Hg monitor (at a minimum, an annual evaluation is required) and shall make any necessary span and range adjustments, with corresponding monitoring plan updates. Span and range adjustments may be required, for example, as a result of changes in the fuel supply, changes in the manner of operation of the unit, or installation or removal of emission controls. In implementing the provisions in paragraphs (a) and (b) of this section, data recorded during short-term, non-representative process operating conditions (*e.g.*, a trial burn of a different type of fuel) shall be excluded from consideration. The owner or operator shall keep the results of the most recent span and range evaluation on-site, in a format suitable for inspection. Make each required span or range adjustment no later than 45 days after the end of the quarter in which the need to adjust the span or range is identified, except that up to 90 days after the end of that quarter may be taken to implement a span adjustment if the calibration gas concentrations currently being used for calibration error tests, system integrity checks, and linearity checks are unsuitable for use with the new span value and new calibration materials must be ordered.

(a) The guidelines of section 2.1 of this appendix do not apply to Hg monitoring systems.

(b) Whenever a full-scale range exceedance occurs during a quarter and is not caused by a monitor out-of-control period, proceed as follows:

(1) For monitors with a single measurement scale, report 200 percent of the full-scale range as the hourly Hg concentration until the readings come back on-scale and if appropriate, make adjustments to the MPC, span, and range to prevent future full-scale exceedances; or

(2) For units with two separate measurement scales, if the low range is exceeded, no further action is required, provided that the high range is available and is not out-of-control or out-of-service for any reason. However, if the high range is not able to provide quality assured data at the time of the low range exceedance or at any time during the continuation of the exceedance, report the MPC until the readings return to the low range or until the high range is able to provide quality assured data (unless the reason that the high-scale range is not able to provide quality assured data is because the high-scale range has been exceeded; if the high-scale range is exceeded follow the procedures in paragraph (b)(1) of this section).

(c) Whenever changes are made to the MPC, MEC, full-scale range, or span value of the Hg monitor, record and report (as applicable) the new full-scale range setting, the new MPC or MEC and calculations of the adjusted span value in an updated monitoring plan. The monitoring plan update shall be made in the quarter in which the changes become effective. In addition, record and report the adjusted span as part of the records for the daily calibration error test and linearity check specified by appendix B to this part. Whenever the span value is adjusted, use calibration gas concentrations that meet the requirements of section 5.1 of this appendix, based on the adjusted span value. When a span adjustment is so significant that the calibration gas concentrations currently being used for calibration error tests, system integrity checks and linearity checks are unsuitable for use with the new span value, then a diagnostic linearity or 3-level system integrity check using the new calibration gas concentrations must be performed and passed. Use the data validation procedures in § 75.20(b)(3), beginning with the hour in which the span is changed.

2.2 Design for Quality Control Testing

* * * * *

2.2.3 Mercury Monitors.

Design and equip each mercury monitor to permit the introduction of known concentrations of elemental Hg and $HgCl_2$ separately, at a point immediately preceding the sample extraction filtration system, such that the entire measurement system can be checked. If the Hg monitor does not have a converter, the $HgCl_2$ injection capability is not required.

* * * * *

■ 37. Appendix A to part 75 is further amended by:

■ a. Adding a new paragraph (c) to section 3.1;

■ b. Adding a new paragraph (3) to section 3.2; and

■ c. Adding new sections 3.3.8 and 3.4.3.

The revisions and additions read as follows:

Appendix A to Part 75—Specifications and Test Procedures

* * * * *

3. Performance Specifications.

3.1 *Calibration Error*

* * * * *

(c) The calibration error of a Hg concentration monitor shall not deviate from the reference value of either the zero or upscale calibration gas by more than 5.0 percent of the span value, as calculated using Equation A–5 of this appendix. Alternatively, if the span value is 10 μg/scm, the calibration error test results are also acceptable if the absolute value of the difference between the monitor response value and the reference value, $|R-A|$ in Equation A–5 of this appendix, is ≤ 1.0 μg/scm.

3.2 Linearity Check

* * * * *

(3) For Hg monitors:

(i) The error in linearity for each calibration gas concentration (low-, mid-, and high-levels) shall not exceed or deviate from the reference value by more than 10.0 percent as calculated using equation A–4 of this appendix; or

(ii) The absolute value of the difference between the average of the monitor response values and the average of the reference values, $|R-A|$ in equation A–4 of this appendix, shall be less than or equal to 1.0 μg/scm, whichever is less restrictive.

(iii) For the 3-level system integrity check required under § 75.20(c)(1)(vi), the system measurement error shall not exceed 5.0 percent of the span value at any of the three gas levels.

3.3 Relative Accuracy

* * * * *

3.3.8 Relative Accuracy for Hg Monitoring Systems

The relative accuracy of a Hg concentration monitoring system or a sorbent trap monitoring system shall not exceed 20.0 percent. Alternatively, for affected units where the average of the reference method measurements of Hg concentration during the relative accuracy test audit is less than 5.0 μg/scm, the test results are acceptable if the difference between the mean value of the monitor measurements and the reference method mean value does not exceed 1.0 μg/scm, in cases where the relative accuracy specification of 20.0 percent is not achieved.

3.4 Bias

* * * * *

3.4.3 Hg Monitoring Systems

Mercury concentration monitoring systems and sorbent trap monitoring systems shall not be biased low as determined by the test procedure in section 7.6 of this appendix.

* * * * *

■ 38. Appendix A to part 75 is further amended by revising the second sentence in the first paragraph of the introductory text of section 4 and revising the second paragraph of the introductory text of section 4, to read as follows:

Appendix A to Part 75—Specifications and Test Procedures

4. Data Acquisition and Handling Systems.

* * * These systems also shall have the capability of interpreting and converting the individual output signals from an SO_2 pollutant concentration monitor, a flow monitor, a CO_2 monitor, an O_2 monitor, a NO_X pollutant concentration monitor, a NO_X-diluent CEMS, a moisture monitoring system, a Hg concentration monitoring system, and a sorbent trap monitoring system, to produce a continuous readout of pollutant emission rates or pollutant mass emissions (as applicable) in the appropriate units (*e.g.*, lb/hr, lb/MMBtu, ounces/hr, tons/hr).

Data acquisition and handling systems shall also compute and record monitor calibration error; any bias adjustments to SO_2, NO_X, and Hg pollutant concentration data, flow rate data, Hg emission rate data, or NO_X emission rate data; and all missing data procedure statistics specified in subpart D of this part.

* * * * *

■ 39. Appendix A to part 75 is further amended by adding new section 5.1.9, to read as follows:

Appendix A to Part 75—Specifications and Test Procedures

* * * * *

5. Calibration Gas.

* * * * *

5.1.9 Mercury Standards.

For 7-day calibration error tests of Hg concentration monitors and for daily calibration error tests of Hg monitors, either elemental Hg standards or a NIST-traceable source of oxidized Hg may be used. For linearity checks, elemental Hg standards shall be used. For 3-level and single-point system integrity checks under § 75.20(c)(1)(vi), sections 6.2(g) and 6.3.1 of this appendix, and sections 2.1.1, 2.2.1 and 2.6 of appendix B to this part, a NIST-traceable source of oxidized Hg shall be used. Alternatively, other NIST-traceable standards may be used for the required checks, subject to the approval of the Administrator.

* * * * *

■ 40. Appendix A to part 75 is further amended by:

■ a. Revising the first sentence of the introductory text to section 6.2;

■ b. Adding new paragraph (g) to section 6.2;

■ c. Revising the second sentence of section 6.3.1 and adding a new third sentence;

■ d. Revising the first sentence of section 6.5;
■ e. Revising section 6.5(a);
■ f. Revising the second sentence of section 6.5(c);
■ g. Revising section 6.5(g);
■ h. Revising section 6.5.1(a);
■ i. Revising section 6.5.1(b);
■ j. Adding new paragraph (c) to section 6.5.6;
■ k. Revising the first sentence and adding three sentences at the end of section 6.5.7(a); and
■ l. Revising sections 6.5.7(b) and 6.5.10.

The revisions read as follows:

Appendix A to Part 75—Specifications and Test Procedures

* * * * *

6. Certification Tests and Procedures.

* * * * *

6.2 Linearity Check (General Procedures)

Check the linearity of each SO_2, NO_X, CO_2, Hg, and O_2 monitor while the unit, or group of units for a common stack, is combusting fuel at conditions of typical stack temperature and pressure; it is not necessary for the unit to be generating electricity during this test. * * *

* * * * *

(g) For Hg monitors, follow the guidelines in section 2.2.3 of this appendix in addition to the applicable procedures in this section 6.2 when performing the 3-level system integrity checks described in § 75.20(c)(1)(vi) and section 2.6 of appendix B to this part.

6.3 7-Day Calibration Error Test

6.3.1 Gas Monitor 7-day Calibration Error Test

* * * In all other cases, measure the calibration error of each SO_2 monitor, each NO_X monitor, each Hg concentration monitor, and each CO_2 or O_2 monitor while the unit is combusting fuel (but not necessarily generating electricity) once each day for 7 consecutive operating days according to the following procedures. For Hg monitors, you may perform this test using either elemental Hg standards or a NIST-traceable source of oxidized Hg. * * *

* * * * *

6.5 Relative Accuracy and Bias Tests (General Procedures)

Perform the required relative accuracy test audits (RATAs) as follows for each CO_2 emissions concentration monitor (including O_2 monitors used to determine CO_2 emissions concentration), each SO_2 pollutant concentration monitor, each NO_X concentration monitoring system used to determine NO_X mass emissions, each flow monitor, each NO_X-diluent CEMS, each O_2 or CO_2 diluent monitor used to calculate heat input, each Hg concentration monitoring system, each sorbent trap monitoring system, and each moisture monitoring system. * * *

* * * * *

(a) Except as otherwise provided in this paragraph or in § 75.21(a)(5), perform each RATA while the unit (or units, if more than one unit exhausts into the flue) is combusting the fuel that is a normal primary or backup fuel for that unit (for some units, more than one type of fuel may be considered normal, *e.g.*, a unit that combusts gas or oil on a seasonal basis). For units that co-fire fuels as the predominant mode of operation, perform the RATAs while co-firing. For Hg monitoring systems, perform the RATAs while the unit is combusting coal. When relative accuracy test audits are performed on CEMS installed on bypass stacks/ducts, use the fuel normally combusted by the unit (or units, if more than one unit exhausts into the flue) when emissions exhaust through the bypass stack/ducts.

* * * * *

(c) * * * For units with add-on SO_2 or NO_X controls or add-on Hg controls that operate continuously rather than seasonally, or for units that need a dual range to record high concentration "spikes" during startup conditions, the low range is considered normal. * * *

* * * * *

(g) For each SO_2 or CO_2 emissions concentration monitor, each flow monitor, each CO_2 or O_2 diluent monitor used to determine heat input, each NO_X concentration monitoring system used to determine NO_X mass emissions, as defined in § 75.71(a)(2), each moisture monitoring system, each NO_X-diluent CEMS, each Hg concentration monitoring system, and each sorbent trap monitoring system, calculate the relative accuracy, in accordance with section 7.3 or 7.4 of this appendix, as applicable. In addition (except for CO_2, O_2, or moisture monitors), test for bias and determine the appropriate bias adjustment factor, in accordance with sections 7.6.4 and 7.6.5 of this appendix, using the data from the relative accuracy test audits.

6.5.1 Gas and Hg Monitoring System RATAs (Special Considerations)

(a) Perform the required relative accuracy test audits for each SO_2 or CO_2 emissions concentration monitor, each CO_2 or O_2 diluent monitor used to determine heat input, each NO_X-diluent CEMS, each NO_X concentration monitoring system used to determine NO_X mass emissions, as defined in § 75.71(a)(2), each Hg concentration monitoring system, and each sorbent trap monitoring system at the normal load level or normal operating level for the unit (or combined units, if common stack), as defined in section 6.5.2.1 of this appendix. If two load levels or operating levels have been designated as normal, the RATAs may be done at either load level.

(b) For the initial certification of a gas or Hg monitoring system and for recertifications in which, in addition to a RATA, one or more other tests are required (*i.e.*, a linearity test, cycle time test, or 7-day calibration error test), EPA recommends that the RATA not be commenced until the other required tests of the CEMS have been passed.

* * * * *

6.5.6 Reference Method Traverse Point Selection

* * * * *

(c) For Hg monitoring systems, use the same traverse points that are used for the gas monitor RATAs.

* * * * *

6.5.7 Sampling Strategy

(a) Conduct the reference method tests so they will yield results representative of the pollutant concentration, emission rate, moisture, temperature, and flue gas flow rate from the unit and can be correlated with the pollutant concentration monitor, CO_2 or O_2 monitor, flow monitor, and SO_2, Hg, or NO_X CEMS measurements. * * * For the RATA of a Hg CEMS using the Ontario Hydro Method, or for the RATA of a sorbent trap system (irrespective of the reference method used), the time per run must be long enough to collect a sufficient mass of Hg to analyze. For the RATA of a sorbent trap monitoring system, use the same-size trap that is used for daily operation of the monitoring system. Spike the third section of each sorbent trap with elemental Hg, as described in section 7.1.2 of appendix K to this part. Install a new pair of sorbent traps prior to each test run. For each run, the sorbent trap data shall be validated according to the quality assurance criteria in section 8 of appendix K to this part.

(b) To properly correlate individual SO_2, Hg, or NO_X CEMS data (in lb/MMBtu) and volumetric flow rate data with the reference method data, annotate the beginning and end of each reference method test run (including the exact time of day) on the individual chart recorder(s) or other permanent recording device(s).

* * * * *

6.5.10 Reference Methods

The following methods from appendix A to part 60 of this chapter or their approved alternatives are the reference methods for performing relative accuracy test audits: Method 1 or 1A for siting; Method 2 or its allowable alternatives in appendix A to part 60 of this chapter (except for Methods 2B and 2E) for stack gas velocity and volumetric flow rate; Methods 3, 3A, or 3B for O_2 or CO_2; Method 4 for moisture; Methods 6, 6A, or 6C for SO_2; Methods 7, 7A, 7C, 7D, or 7E for NO_X, excluding the exception in section 5.1.2 of Method 7E; and the Ontario Hydro Method or an approved instrumental method for Hg (see § 75.22). When using Method 7E for measuring NO_X concentration, total NO_X, both NO and NO_2, must be measured. Notwithstanding these requirements, Method 20 may be used as the reference method for relative accuracy test audits of NO_X monitoring systems installed on combustion turbines.

* * * * *

■ 41. Appendix A to part 75 is further amended by:
■ a. Revising the title of section 7.3 and the first sentence of the introductory text of section 7.3;
■ b. Revising the introductory text of section 7.6;
■ c. Revising the first sentence in paragraph (b) of section 7.6.5 and adding a sentence at the end of paragraph (b); and

■ d. Revising paragraph (f) in section 7.6.5.

The revisions and additions read as follows:

Appendix A to Part 75—Specifications and Test Procedures

* * * * *

7. Calculations.

* * * * *

7.3 Relative Accuracy for SO_2 and CO_2 Emissions Concentration Monitors, O_2 Monitors, NO_X Concentration Monitoring Systems, Hg Monitoring Systems, and Flow Monitors

Analyze the relative accuracy test audit data from the reference method tests for SO_2 and CO_2 emissions concentration monitors, CO_2 or O_2 monitors used only for heat input rate determination, NO_X concentration monitoring systems used to determine NO_X mass emissions under subpart H of this part, Hg monitoring systems used to determine Hg mass emissions under subpart I of this part, and flow monitors using the following procedures. * * *

* * * * *

7.6 Bias Test and Adjustment Factor

Test the following relative accuracy test audit data sets for bias: SO_2 pollutant concentration monitors; flow monitors; NO_X concentration monitoring systems used to determine NO_X mass emissions, as defined in § 75.71(a)(2); NO_X-diluent CEMS, Hg concentration monitoring systems, and sorbent trap monitoring systems, using the procedures outlined in sections 7.6.1 through 7.6.5 of this appendix. For multiple-load flow RATAs, perform a bias test at each load level designated as normal under section 6.5.2.1 of this appendix.

* * * * *

7.6.5 Bias Adjustment

* * * * *

(b) For single-load RATAs of SO_2 pollutant concentration monitors, NO_X concentration monitoring systems, NO_X-diluent monitoring systems, Hg concentration monitoring systems, and sorbent trap monitoring systems, and for the single-load flow RATAs required or allowed under section 6.5.2 of this appendix and sections 2.3.1.3(b) and 2.3.1.3(c) of appendix B to this part, the appropriate BAF is determined directly from the RATA results at normal load, using Equation A–12. * * * Similarly, for Hg concentration and sorbent trap monitoring systems, where the average Hg concentration during the RATA is < 5.0 μg/dscm, if the monitoring system meets the normal or the alternative relative accuracy specification in section 3.3.8 of this appendix but fails the bias test, the owner or operator may either use the bias adjustment factor (BAF) calculated from Equation A–12 or may use a default BAF of 1.250 for reporting purposes under this part.

* * * * *

(f) Use the bias-adjusted values in computing substitution values in the missing data procedure, as specified in subpart D of this part, and in reporting the concentration of SO_2 or Hg, the flow rate, the average NO_X emission rate, the unit heat input, and the calculated mass emissions of SO_2 and CO_2 during the quarter and calendar year, as specified in subpart G of this part. In addition, when using a NO_X concentration monitoring system and a flow monitor to calculate NO_X mass emissions under subpart H of this part, or when using a Hg concentration or sorbent trap monitoring system and a flow monitor to calculate Hg mass emissions under subpart I of this part, use bias-adjusted values for NO_X (or Hg) concentration and flow rate in the mass emission calculations and use bias-adjusted NO_X (or Hg) concentrations to compute the appropriate substitution values for NO_X (or Hg) concentration in the missing data routines under subpart D of this part.

* * * * *

■ 42. Appendix B to part 75 is amended by adding sections 1.5 through 1.5.6, to read as follows:

Appendix B to Part 75—Quality Assurance and Quality Control Procedures

* * * * *

1.5 Requirements for Sorbent Trap Monitoring Systems

1.5.1 Sorbent Trap Identification and Tracking

Include procedures for inscribing or otherwise permanently marking a unique identification number on each sorbent trap, for tracking purposes. Keep records of the ID of the monitoring system in which each sorbent trap is used, and the dates and hours of each Hg collection period.

1.5.2 Monitoring System Integrity and Data Quality

Explain the procedures used to perform the leak checks when a sorbent trap is placed in service and removed from service. Also explain the other QA procedures used to ensure system integrity and data quality, including, but not limited to, dry gas meter calibrations, verification of moisture removal, and ensuring air-tight pump operation. In addition, the QA plan must include the data acceptance and quality control criteria in section 8 of appendix K to this part.

1.5.3 Hg Analysis

Explain the chain of custody employed in packing, transporting, and analyzing the sorbent traps (see sections 7.2.8 and 7.2.9 in appendix K to this part). Keep records of all Hg analyses. The analyses shall be performed in accordance with the procedures described in section 10 of appendix K to this part.

1.5.4 Laboratory Certification

The QA Plan shall include documentation that the laboratory performing the analyses on the carbon sorbent traps is certified by the International Organization for Standardization (ISO) to have a proficiency that meets the requirements of ISO 17025. Alternatively, if the laboratory performs the spike recovery study described in section 10.3 of appendix K to this part and repeats that procedure annually, ISO certification is not required.

1.5.5 Data Collection Period

State, and provide the rationale for, the minimum acceptable data collection period (*e.g.*, one day, one week, etc.) for the size of sorbent trap selected for the monitoring. Include in the discussion such factors as the Hg concentration in the stack gas, the capacity of the sorbent trap, and the minimum mass of Hg required for the analysis.

1.5.6 Relative Accuracy Test Audit Procedures

Keep records of the procedures and details peculiar to the sorbent trap monitoring systems that are to be followed for relative accuracy test audits, such as sampling and analysis methods.

* * * * *

■ 43. Appendix B to part 75 is further amended by:

■ a. Revising the first sentence in section 2.1.1 and adding a new second sentence;

■ b. Revising paragraph (a) of section 2.1.4;

■ c. Revising section 2.2.1;

■ d. Revising the first sentence of paragraph (a) of section 2.3.1.1 and adding a new second sentence to paragraph (a);

■ e. Revising paragraph (a) of section 2.3.1.3;

■ f. Revising paragraph (i) of section 2.3.2;

■ g. Revising section 2.3.4;

■ h. Adding new section 2.6 before Figure 1;

■ i. Revising Figure 1 and the first two footnotes to Figure 1 (footnotes 1 and 2 remain unchanged);

■ j. Revising Figure 2;

The revisions and additions read as follows:

Appendix B to Part 75—Quality Assurance and Quality Control Procedures

* * * * *

2. Frequency of Testing.

* * * * *

2.1.1 Calibration Error Test

Except as provided in section 2.1.1.2 of this appendix, perform the daily calibration error test of each gas monitoring system (including moisture monitoring systems consisting of wet- and dry-basis O_2 analyzers) and each Hg monitoring system according to the procedures in section 6.3.1 of appendix A to this part, and perform the daily calibration error test of each flow monitoring system according to the procedure in section 6.3.2 of appendix A to this part. For Hg monitors, the daily assessments may be made using either elemental Hg standards or a NIST-traceable source of oxidized Hg. * * *

* * * * *

2.1.4 Data Validation

(a) An out-of-control period occurs when the calibration error of an SO_2 or NO_X pollutant concentration monitor exceeds 5.0 percent of the span value, when the

calibration error of a CO_2 or O_2 monitor (including O_2 monitors used to measure CO_2 emissions or percent moisture) exceeds 1.0 percent CO_2 or O_2, or when the calibration error of a flow monitor or a moisture sensor exceeds 6.0 percent of the span value, which is twice the applicable specification of appendix A to this part. Notwithstanding, a differential pressure-type flow monitor for which the calibration error exceeds 6.0 percent of the span value shall not be considered out-of-control if |R–A|, the absolute value of the difference between the monitor response and the reference value in Equation A–6 of appendix A to this part, is < 0.02 inches of water. In addition, an SO_2 or NO_X monitor for which the calibration error exceeds 5.0 percent of the span value shall not be considered out-of-control if |RA| in Equation A–6 does not exceed 5.0 ppm (for span values ≤ 50 ppm), or if |R–A| does not exceed 10.0 ppm (for span values > 50 ppm, but ≤ 200 ppm). For a Hg monitor, an out-of-control period occurs when the calibration error exceeds 5.0% of the span value. Notwithstanding, the Hg monitor shall not be considered out-of-control if |R–A| in Equation A–6 does not exceed 1.0 μg/scm. The out-of-control period begins upon failure of the calibration error test and ends upon completion of a successful calibration error test. Note, that if a failed calibration, corrective action, and successful calibration error test occur within the same hour, emission data for that hour recorded by the monitor after the successful calibration error test may be used for reporting purposes, provided that two or more valid readings are obtained as required by § 75.10. A NO_X-diluent CEMS is considered out-of-control if the calibration error of either component monitor exceeds twice the applicable performance specification in appendix A to this part. Emission data shall not be reported from an out-of-control monitor.

* * * * *

2.2.1 Linearity Check

Unless a particular monitor (or monitoring range) is exempted under this paragraph or under section 6.2 of appendix A to this part, perform a linearity check, in accordance with the procedures in section 6.2 of appendix A to this part, for each primary and redundant backup SO_2, Hg, and NO_X pollutant concentration monitor and each primary and redundant backup CO_2 or O_2 monitor (including O_2 monitors used to measure CO_2 emissions or to continuously monitor moisture) at least once during each QA operating quarter, as defined in § 72.2 of this chapter. For Hg monitors, perform the linearity checks using elemental Hg standards. Alternatively, you may perform 3-level system integrity checks at the same three calibration gas levels (*i.e.*, low, mid, and high), using a NIST-traceable source of oxidized Hg. If you choose this option, the performance specification in section 3.2(c)(3) of appendix A to this part must be met at each gas level. For units using both a low and high span value, a linearity check is required only on the range(s) used to record and report emission data during the QA operating quarter. Conduct the linearity checks no less than 30 days apart, to the extent practicable. The data validation procedures in section 2.2.3(e) of this appendix shall be followed.

* * * * *

2.3.1.1 Standard RATA Frequencies

(a) Except for Hg monitoring systems and as otherwise specified in § 75.21(a)(6) or (a)(7) or in section 2.3.1.2 of this appendix, perform relative accuracy test audits semiannually, *i.e.*, once every two successive QA operating quarters (as defined in § 72.2 of this chapter) for each primary and redundant backup SO_2 pollutant concentration monitor, flow monitor, CO_2 emissions concentration monitor (including O_2 monitors used to determine CO_2 emissions), CO_2 or O_2 diluent monitor used to determine heat input, moisture monitoring system, NO_X concentration monitoring system, NO_X-diluent CEMS, or SO_2-diluent CEMS. For each primary and redundant backup Hg concentration monitoring system and each sorbent trap monitoring system, RATAs shall be performed annually, *i.e.*, once every four successive QA operating quarters (as defined in § 72.2 of this chapter). * * *

* * * * *

2.3.1.3 RATA Load (or Operating) Levels and Additional RATA Requirements

(a) For SO_2 pollutant concentration monitors, CO_2 emissions concentration monitors (including O_2 monitors used to determine CO_2 emissions), CO_2 or O_2 diluent monitors used to determine heat input, NO_X concentration monitoring systems, Hg concentration monitoring systems, sorbent trap monitoring systems, moisture monitoring systems, and NO_X-diluent monitoring systems, the required semiannual or annual RATA tests shall be done at the load level (or operating level) designated as normal under section 6.5.2.1(d) of appendix A to this part. If two load levels (or operating levels) are designated as normal, the required RATA(s) may be done at either load level (or operating level).

* * * * *

2.3.2 Data Validation

* * * * *

(i) Each time that a hands-off RATA of an SO_2 pollutant concentration monitor, a NO_X-diluent monitoring system, a NO_X concentration monitoring system, a Hg concentration monitoring system, a sorbent trap monitoring system, or a flow monitor is passed, perform a bias test in accordance with section 7.6.4 of appendix A to this part. Apply the appropriate bias adjustment factor to the reported SO_2, Hg, NO_X, or flow rate data, in accordance with section 7.6.5 of appendix A to this part.

* * * * *

2.3.4 Bias Adjustment Factor

Except as otherwise specified in section 7.6.5 of appendix A to this part, if an SO_2 pollutant concentration monitor, flow monitor, NO_X CEMS, NO_X concentration monitoring system used to calculate NO_X mass emissions, Hg concentration monitoring system, or sorbent trap monitoring system fails the bias test specified in section 7.6 of appendix A to this part, use the bias adjustment factor given in Equations A–11 and A–12 of appendix A to this part, or the allowable alternative BAF specified in section 7.6.5(b) of appendix A to this part, to adjust the monitored data.

* * * * *

2.6 System Integrity Checks for Hg Monitors

For each Hg concentration monitoring system (except for a Hg monitor that does not have a converter), perform a single-point system integrity check weekly, *i.e.*, at least once every 168 unit or stack operating hours, using a NIST-traceable source of oxidized Hg. Perform this check using a mid- or high-level gas concentration, as defined in section 5.2 of appendix A to this part. The performance specification in section 3.2(c)(3) of appendix A to this part must be met, otherwise the monitoring system is considered out-of-control until a subsequent system integrity check is passed. This weekly check is not required if the daily calibration assessments in section 2.1.1 of this appendix are performed using a NIST-traceable source of oxidized Hg.

FIGURE 1 TO APPENDIX B OF PART 75—QUALITY ASSURANCE TEST REQUIREMENTS

Test	QA test frequency requirements*				
	Daily	Weekly	Quarterly	Semiannual	Annual
Calibration Error or System Integrity Check** (2 pt.)					
Interference Check (flow)					
Flow-to-Load Ratio					
Leak Check (DP flow monitors)					
Linearity Check or System Integrity Check** (3-point)					
Single-point System Integrity Check**					
RATA (SO_2, NO_X, CO_2, O_2, H_2O)[1]					
RATA (all Hg monitoring systems)					

FIGURE 1 TO APPENDIX B OF PART 75—QUALITY ASSURANCE TEST REQUIREMENTS—Continued

Test	QA test frequency requirements*				
	Daily	Weekly	Quarterly	Semiannual	Annual
RATA (flow) [1,2]					

*"Daily" means operating days, only. "Weekly" means once every 168 unit or stack operating hours. "Quarterly" means once every QA operating quarter. "Semiannual" means once every two QA operating quarters. "Annual" means once every four QA operating quarters.
**The system integrity check applies only to Hg monitors with converters. The single-point weekly check is not required if daily system integrity checks are performed using a NIST-traceable source of oxidized Hg.

* * * * *

FIGURE 2 TO APPENDIX B OF PART 75—RELATIVE ACCURACY TEST FREQUENCY INCENTIVE SYSTEM

RATA	Semiannual[W] (percent)	Annual[W]
SO_2 or NO_X[Y]	7.5% < RA ≤ 10.0% or ± 15.0 ppm[X]	RA ≤ 7.5% or ± 12.0 ppm[X].
SO_2-diluent	7.5% < RA ≤ 10.0% or ± 0.030 lb/MMBtu[X]	RA ≤ 7.5% or ±0. 025 lb/MMBtu[X].
NO_X-diluent	7.5% < RA ≤ 10.0% or ± 0.020 lb/MMBtu[X]	RA ≤ 7.5% or ±0. 015 lb/MMBtu[X].
Flow	7.5% < RA ≤ 10.0% or ± 1.5 fps[X]	RA ≤ 7.5%.
CO_2 or O_2	7.5% < RA ≤ 10.0% or ± 1.0% CO_2/O_2[X]	RA ≤ 7.5% or ± 0.7% CO_2/O_2[X]
Hg[X]		RA < 20.0% or ± 1.0 μg/dscm[X].
Moisture	7.5% < RA ≤ 10.0% or ± 1.5% H_2O[X]	RA ≤ 7.5% or ± 1.0% H_2O[X].

[W] The deadline for the next RATA is the end of the second (if semiannual) or fourth (if annual) successive QA operating quarter following the quarter in which the CEMS was last tested. Exclude calendar quarters with fewer than 168 unit operating hours (or, for common stacks and bypass stacks, exclude quarters with fewer than 168 stack operating hours) in determining the RATA deadline. For SO_2 monitors, QA operating quarters in which only very low sulfur fuel as defined in § 72.2, is combusted may also be excluded. However, the exclusion of calendar quarters is limited as follows: the deadline for the next RATA shall be no more than 8 calendar quarters after the quarter in which a RATA was last performed.
[X] The difference between monitor and reference method mean values applies to moisture monitors, CO_2, and O_2 monitors, low emitters of SO_2, NO_X, or Hg, and low flow, only. The specifications for Hg monitors also apply to sorbent trap monitoring systems.
[Y] A NO_X concentration monitoring system used to determine NO_X mass emissions under § 75.71.

■ 44. Appendix F to part 75 is amended by adding section 9, to read as follows:

Appendix F to Part 75—Conversion Procedures

* * * * *

9. Procedures for Hg Mass Emissions.

9.1 Use the procedures in this section to calculate the hourly Hg mass emissions (in ounces) at each monitored location, for the affected unit or group of units that discharge through a common stack.

9.1.1 To determine the hourly Hg mass emissions when using a Hg concentration monitoring system that measures on a wet basis and a flow monitor, use the following equation:

$$M_h = K C_h Q_h t_h \qquad \text{(Eq. F-28)}$$

Where:

M_h = Hg mass emissions for the hour, rounded off to three decimal places, (ounces).

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

C_h = Hourly Hg concentration, wet basis, adjusted for bias if the bias-test procedures in appendix A to this part show that a bias-adjustment factor is necessary, (μg/wscm).

Q_h = Hourly stack gas volumetric flow rate, adjusted for bias, where the bias-test procedures in appendix A to this part shows a bias-adjustment factor is necessary, (scfh)

t_h = Unit or stack operating time, as defined in § 72.2, (hr)

9.1.2 To determine the hourly Hg mass emissions when using a Hg concentration monitoring system that measures on a dry basis or a sorbent trap monitoring system and a flow monitor, use the following equation:

$$M_h = K C_h Q_h t_h (1-B_{ws}) \qquad \text{(Eq. F-29)}$$

Where:

M_h = Hg mass emissions for the hour, rounded off to three decimal places, (ounces).

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

C_h = Hourly Hg concentration, dry basis, adjusted for bias if the bias-test procedures in appendix A to this part show that a bias-adjustment factor is necessary, (μg/dscm). For sorbent trap systems, a single value of C_h (*i.e.*, a flow-proportional average concentration for the data collection period), is applied to each hour in the data collection period, for a particular pair of traps.

Q_h = Hourly stack gas volumetric flow rate, adjusted for bias, where the bias-test procedures in appendix A to this part shows a bias-adjustment factor is necessary, (scfh)

B_{ws} = Moisture fraction of the stack gas, expressed as a decimal (equal to % H_2O 100)

t_h = Unit or stack operating time, as defined in § 72.2, (hr)

9.1.3 For units that are demonstrated under § 75.81(d) to emit less than 464 ounces of Hg per year, and for which the owner or operator elects not to continuously monitor the Hg concentration, calculate the hourly Hg mass emissions using Equation F–28 in section 9.1.1 of this appendix, except that "C_h" shall be the applicable default Hg concentration from § 75.81(c), (d), or (e), expressed in μg/scm. Correction for the stack gas moisture content is not required when this methodology is used.

9.2 Use the following equation to calculate quarterly and year-to-date Hg mass emissions in ounces:

$$M_{\text{time period}} = \sum_{h=1}^{n} M_h \qquad \text{(Eq. F-30)}$$

Where:

$M_{\text{time period}}$ = Hg mass emissions for the given time period *i.e.*, quarter or year-to-date, rounded to the nearest thousandth, (ounces).

M_h = Hg mass emissions for the hour, rounded to three decimal places, (ounces).

n = The number of hours in the given time period (quarter or year-to-date).

9.3 If heat input rate monitoring is required, follow the applicable procedures for heat input apportionment and summation in sections 5.3, 5.6 and 5.7 of this appendix.

■ 45. Part 75 is amended by adding Appendix K, to read as follows:

Appendix K to Part 75—Quality Assurance and Operating Procedures for Sorbent Trap Monitoring Systems

1.0 Scope and Application

This appendix specifies sampling, and analytical, and quality-assurance criteria and

procedures for the performance-based monitoring of vapor-phase mercury (Hg) emissions in combustion flue gas streams, using a sorbent trap monitoring system (as defined in § 72.2 of this chapter). The principle employed is continuous sampling using in-stack sorbent media coupled with analysis of the integrated samples. The performance-based approach of this appendix allows for use of various suitable sampling and analytical technologies while maintaining a specified and documented level of data quality through performance criteria. Persons using this appendix should have a thorough working knowledge of Methods 1, 2, 3, 4 and 5 in appendices A–1 through A–3 to part 60 of this chapter, as well as the determinative technique selected for analysis.

1.1 Analytes.

The analyte measured by these procedures and specifications is total vapor-phase Hg in the flue gas, which represents the sum of elemental Hg (Hg^0, CAS Number 7439–97–6) and oxidized forms of Hg, in mass concentration units of micrograms per dry standard cubic meter (μg/dscm).

1.2 Applicability.

These performance criteria and procedures are applicable to monitoring of vapor-phase Hg emissions under relatively low-dust conditions (*i.e.*, sampling in the stack after all pollution control devices), from coal-fired electric utility steam generators which are subject to subpart I of this part. Individual sample collection times can range from 30 minutes to several days in duration, depending on the Hg concentration in the stack. The monitoring system must achieve the performance criteria specified in Section 8 of this appendix and the sorbent media capture ability must not be exceeded. The sampling rate must be maintained at a constant proportion to the total stack flowrate to ensure representativeness of the sample collected. Failure to achieve certain performance criteria will result in invalid Hg emissions monitoring data.

2.0 Principle.

Known volumes of flue gas are extracted from a stack or duct through paired, in-stack, pre-spiked sorbent media traps at an appropriate nominal flow rate. Collection of Hg on the sorbent media in the stack mitigates potential loss of Hg during transport through a probe/sample line. Paired train sampling is required to determine measurement precision and verify acceptability of the measured emissions data.

The sorbent traps are recovered from the sampling system, prepared for analysis, as needed, and analyzed by any suitable determinative technique that can meet the performance criteria. A section of each sorbent trap is spiked with Hg^0 prior to sampling. This section is analyzed separately and the recovery value is used to correct the individual Hg sample for measurement bias.

3.0 Clean Handling and Contamination.

To avoid Hg contamination of the samples, special attention should be paid to cleanliness during transport, field handling, sampling, recovery, and laboratory analysis, as well as during preparation of the sorbent cartridges. Collection and analysis of blank samples (field, trip, lab) is useful in verifying the absence of contaminant Hg.

4.0 Safety.

4.1 Site hazards.

Site hazards must be thoroughly considered in advance of applying these procedures/specifications in the field; advance coordination with the site is critical to understand the conditions and applicable safety policies. At a minimum, portions of the sampling system will be hot, requiring appropriate gloves, long sleeves, and caution in handling this equipment.

4.2 Laboratory safety policies.

Laboratory safety policies should be in place to minimize risk of chemical exposure and to properly handle waste disposal. Personnel shall wear appropriate laboratory attire according to a Chemical Hygiene Plan established by the laboratory.

4.3 Toxicity or carcinogenicity.

The toxicity or carcinogenicity of any reagents used must be considered. Depending upon the sampling and analytical technologies selected, this measurement may involve hazardous materials, operations, and equipment and this appendix does not address all of the safety problems associated with implementing this approach. It is the responsibility of the user to establish appropriate safety and health practices and determine the applicable regulatory limitations prior to performance. Any chemical should be regarded as a potential health hazard and exposure to these compounds should be minimized. Chemists should refer to the Material Safety Data Sheet (MSDS) for each chemical used.

4.4 Wastes.

Any wastes generated by this procedure must be disposed of according to a hazardous materials management plan that details and tracks various waste streams and disposal procedures.

5.0 Equipment and Supplies.

The following list is presented as an example of key equipment and supplies likely required to perform vapor-phase Hg monitoring using a sorbent trap monitoring system. It is recognized that additional equipment and supplies may be needed. Collection of paired samples is required. Also required are a certified stack gas volumetric flow monitor that meets the requirements of § 75.10 and an acceptable means of correcting for the stack gas moisture content, *i.e.*, either by using data from a certified continuous moisture monitoring system or by using an approved default moisture value (see §§ 75.11(b) and 75.12(b)).

5.1 Sorbent Trap Monitoring System.

A typical sorbent trap monitoring system is shown in Figure K–1. The monitoring system shall include the following components:

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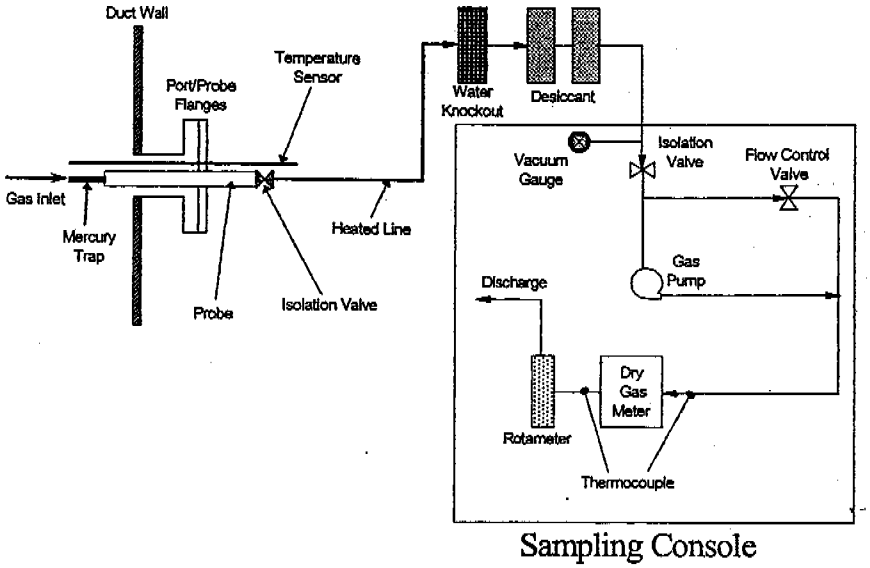
Figure K-1. Typical Sorbent Trap Monitoring System



BILLING CODE 6560–50–C

5.1.1 Sorbent Traps.

The sorbent media used to collect Hg must be configured in a trap with three distinct and identical segments or sections, connected in series, that are amenable to separate analyses. Section 1 is designated for primary capture of gaseous Hg. Section 2 is designated as a backup section for determination of vapor-phase Hg breakthrough. Section 3 is designated for QA/QC purposes where this section shall be spiked with an known amount of gaseous Hg^0 prior to sampling and later analyzed to determine recovery efficiency. The sorbent media may be any collection material (*e.g.*, carbon, chemically-treated filter, etc.) capable of quantitatively capturing and recovering for subsequent analysis, all gaseous forms of Hg for the intended application. Selection of the sorbent media shall be based on the material's ability to achieve the performance criteria contained in Section 8 of this appendix as well as the sorbent's vapor-phase Hg capture efficiency for the emissions matrix and the expected sampling duration at the test site. The sorbent media must be obtained from a source that can demonstrate the quality assurance and control necessary to ensure consistent reliability. The paired sorbent traps are supported on a probe (or probes) and inserted directly into the flue gas stream.

5.1.2 Sampling Probe Assembly.

Each probe assembly shall have a leak-free attachment to the sorbent trap(s). Each sorbent trap must be mounted at the entrance of or within the probe such that the gas sampled enters the trap directly. Each probe/sorbent trap assembly must be heated to a temperature sufficient to prevent liquid condensation in the sorbent trap(s). Auxiliary heating is required only where the stack temperature is too low to prevent condensation. Use a calibrated thermocouple to monitor the stack temperature. A single probe capable of operating the paired sorbent traps may be used. Alternatively, individual probe/sorbent trap assemblies may be used, provided that the individual sorbent traps are co-located to ensure representative Hg monitoring and are sufficiently separated to prevent aerodynamic interference.

5.1.3 Moisture Removal Device.

A robust moisture removal device or system, suitable for continuous duty (such as a Peltier cooler), shall be used to remove water vapor from the gas stream prior to entering the dry gas meter.

5.1.4 Vacuum Pump.

Use a leak-tight, vacuum pump capable of operating within the candidate system's flow range.

5.1.5 Dry Gas Meter.

A dry gas meter shall be used to determine total sample volume. The meter must be sufficiently accurate to measure the total sample volume within 2 percent, must be calibrated at the selected flow rate and conditions actually encountered during sampling, and shall be equipped with a temperature sensor capable of measuring typical meter temperatures accurately to within 3 °C for correcting final sample volume.

5.1.6 Sample Flow Rate Meter and Controller.

Use a flow rate indicator and controller for maintaining necessary sampling flow rates.

5.1.7 Temperature Sensor.

Same as Section 6.1.1.7 of Method 5 in appendix A–3 to part 60 of this chapter.

5.1.8 Barometer.

Same as Section 6.1.2 of Method 5 in appendix A–3 to part 60 of this chapter.

5.1.9 Data Logger (Optional).

Device for recording associated and necessary ancillary information (*e.g.*, temperatures, pressures, flow, time, etc.).

5.2 Gaseous Hg^0 Sorbent Trap Spiking System.

A known mass of gaseous Hg^0 must be spiked onto section 3 of each sorbent trap prior to sampling. Any approach capable of quantitatively delivering known masses of Hg^0 onto sorbent traps is acceptable. Several technologies or devices are available to meet this objective. Their practicality is a function of Hg mass spike levels. For low levels, NIST-certified or NIST-traceable gas generators or tanks may be suitable, but will likely require long preparation times. A more practical, alternative system, capable of delivering almost any mass required, makes use of NIST-certified or NIST-traceable Hg salt solutions (*e.g.*, $Hg(NO_3)_2$). With this system, an aliquot of known volume and concentration is added to a reaction vessel containing a reducing agent (*e.g.*, stannous chloride); the Hg salt solution is reduced to Hg^0 and purged onto section 3 of the sorbent trap using an impinger sparging system.

5.3 Sample Analysis Equipment.

Any analytical system capable of quantitatively recovering and quantifying total gaseous Hg from sorbent media is acceptable provided that the analysis can meet the performance criteria in Section 8 of this procedure. Candidate recovery

techniques include leaching, digestion, and thermal desorption. Candidate analytical techniques include ultraviolet atomic fluorescence (UV AF); ultraviolet atomic absorption (UV AA), with and without gold trapping; and in situ X-ray fluorescence (XRF) analysis.

6.0 Reagents and Standards.

Only NIST-certified or NIST-traceable calibration gas standards and reagents shall be used for the tests and procedures required under this appendix.

7.0 Sample Collection and Transport.

7.1 Pre-Test Procedures.

7.1.1 Selection of Sampling Site.

Sampling site information should be obtained in accordance with Method 1 in appendix A–1 to part 60 of this chapter. Identify a monitoring location representative of source Hg emissions. Locations shown to be free of stratification through measurement traverses for gases such as SO_2 and NO_X may be one such approach. An estimation of the expected stack Hg concentration is required to establish a target sample flow rate, total gas sample volume, and the mass of Hg^0 to be spiked onto section 3 of each sorbent trap.

7.1.2 Pre-sampling Spiking of Sorbent Traps.

Based on the estimated Hg concentration in the stack, the target sample rate and the target sampling duration, calculate the expected mass loading for section 1 of each sorbent trap (for an example calculation, see section 11.1 of this appendix). The pre-sampling spike to be added to section 3 of each sorbent trap shall be within ± 50 percent of the expected section 1 mass loading. Spike section 3 of each sorbent trap at this level, as described in section 5.2 of this appendix. For each sorbent trap, keep an official record of the mass of Hg^0 added to section 3. This record shall include, at a minimum, the ID number of the trap, the date and time of the spike, the name of the analyst performing the procedure, the mass of Hg^0 added to section 3 of the trap (μg), and the supporting calculations. This record shall be maintained in a format suitable for inspection and audit and shall be made available to the regulatory agencies upon request.

7.1.3 Pre-test Leak Check.

Perform a leak check with the sorbent traps in place. Draw a vacuum in each sample train. Adjust the vacuum in the sample train to ~15" Hg. Using the dry gas meter, determine leak rate. The leakage rate must not exceed 4 percent of the target sampling rate. Once the leak check passes this criterion, carefully release the vacuum in the sample train then seal the sorbent trap inlet until the probe is ready for insertion into the stack or duct.

7.1.4 Determination of Flue Gas Characteristics.

Determine or measure the flue gas measurement environment characteristics (gas temperature, static pressure, gas velocity, stack moisture, etc.) in order to determine ancillary requirements such as probe heating requirements (if any), initial sample rate, proportional sampling conditions, moisture management, etc.

7.2 Sample Collection.

7.2.1 Remove the plug from the end of each sorbent trap and store each plug in a clean sorbent trap storage container. Remove the stack or duct port cap and insert the probe(s). Secure the probe(s) and ensure that no leakage occurs between the duct and environment.

7.2.2 Record initial data including the sorbent trap ID, start time, starting dry gas meter readings, initial temperatures, set-points, and any other appropriate information.

7.2.3 Flow Rate Control.

Set the initial sample flow rate at the target value from section 7.1.1 of this appendix. Record the initial dry gas meter reading, stack temperature, meter temperatures, etc. Then, for every operating hour during the sampling period, record the date and time, the sample flow rate, the gas meter reading, the stack temperature, the flow meter temperatures, temperatures of heated equipment such as the vacuum lines and the probes (if heated), and the sampling system vacuum readings. Also record the stack gas flow rate, as measured by the certified flow monitor, and the ratio of the stack gas flow rate to the sample flow rate. Adjust the sampling flow rate to maintain proportional sampling, *i.e.*, keep the ratio of the stack gas flow rate to sample flow rate constant, to within ±25 percent of the reference ratio from the first hour of the data collection period (see section 11 of this appendix).

7.2.4 Stack Gas Moisture Determination.

Determine stack gas moisture using a continuous moisture monitoring system, as described in § 75.11(b) or § 75.12(b). Alternatively, the owner or operator may use the appropriate fuel-specific moisture default value provided in § 75.11 or § 75.12, or a site-specific moisture default value approved by petition under § 75.66.

7.2.5 Essential Operating Data.

Obtain and record any essential operating data for the facility during the test period, *e.g.*, the barometric pressure must be obtained for correcting sample volume to standard conditions. At the end of the data collection period, record the final dry gas meter reading and the final values of all other essential parameters.

7.2.6 Post Test Leak Check.

When sampling is completed, turn off the sample pump, remove the probe/sorbent trap from the port and carefully re-plug the end of each sorbent trap. Perform a leak check with the sorbent traps in place, at the maximum vacuum reached during the sampling period. Use the same general approach described in section 7.1.3 of this appendix. Record the leakage rate and vacuum. The leakage rate must not exceed 4 percent of the average sampling rate for the data collection period. Following the leak check, carefully release the vacuum in the sample train.

7.2.7 Sample Recovery.

Recover each sampled sorbent trap by removing it from the probe, sealing both ends. Wipe any deposited material from the outside of the sorbent trap. Place the sorbent trap into an appropriate sample storage container and store/preserve in appropriate manner.

7.2.8 Sample Preservation, Storage, and Transport.

While the performance criteria of this approach provide for verification of appropriate sample handling, it is still important that the user consider, determine, and plan for suitable sample preservation, storage, transport, and holding times for these measurements. Therefore, procedures in ASTM D6911–03 "Standard Guide for Packaging and Shipping Environmental Samples for Laboratory Analysis" (incorporated by reference, see § 75.6) shall be followed for all samples.

7.2.9 Sample Custody.

Proper procedures and documentation for sample chain of custody are critical to ensuring data integrity. The chain of custody procedures in ASTM D4840–99 (reapproved 2004) "Standard Guide for Sample Chain-of-Custody Procedures" (incorporated by reference, see § 75.6) shall be followed for all samples (including field samples and blanks).

8.0 Quality Assurance and Quality Control.

Table K–1 summarizes the QA/QC performance criteria that are used to validate the Hg emissions data from sorbent trap monitoring systems, including the relative accuracy test audit (RATA) requirement (see § 75.20(c)(9), section 6.5.7 of appendix A to this part, and section 2.3 of appendix B to this part). Except as provided in § 75.15(h) and as otherwise indicated in Table K–1, failure to achieve these performance criteria will result in invalidation of Hg emissions data.

TABLE K–1.—QUALITY ASSURANCE/QUALITY CONTROL CRITERIA FOR SORBENT TRAP MONITORING SYSTEMS

QA/QC test or specification	Acceptance criteria	Frequency	Consequences if not met
Pre-test leak check	≤4% of target sampling rate	Prior to sampling	Sampling shall not commence until the leak check is passed.
Post-test leak check	≤4% of average sampling rate	After sampling	Sample invalidated.**

TABLE K–1.—QUALITY ASSURANCE/QUALITY CONTROL CRITERIA FOR SORBENT TRAP MONITORING SYSTEMS—Continued

QA/QC test or specification	Acceptance criteria	Frequency	Consequences if not met
Ratio of stack gas flow rate to sample flow rate.	Maintain within ± 25% of initial ratio from first hour of data collection period.	Every hour throughout data collection period.	Case-by-case evaluation.
Sorbent trap section 2 breakthrough.	≤ 5% of Section 1 Hg mass	Every sample	Sample invalidated.**
Paired sorbent trap agreement	≤10% Relative Deviation (RD)	Every sample	Sample invalidated.**
Spike recovery study	Average recovery between 85% and 115% for each of the 3 spike concentration levels.	Prior to analyzing field samples and prior to use of new sorbent media.	Field samples shall not be analyzed until the percent recovery criteria has been met.
Multipoint analyzer calibration	Each analyzer reading within ± 10% of true value and r^2 ≥0.99.	On the day of analysis, before analyzing any samples.	Recalibrate until successful.
Analysis of independent calibration standard.	Within ± 10% of true value	Following daily calibration, prior to analyzing field samples.	Recalibrate and repeat independent standard analysis until successful.
Spike recovery from section 3 of sorbent trap.	75–125% of spike amount	Every sample	Sample invalidated.**
RATA	RA ≤ 20.0% *or* Mean difference ≤ 1.0 μg/dscm for low emitters.	For initial certification and annually thereafter.	Data from the system are invalidated until a RATA is passed.
Dry gas meter calibration (At 3 orifice initially, and 1 setting thereafter).	Calibration factor (Y) within ± 5% of average value from the initial (3-point) calibration.	Prior to initial use and at least quarterly thereafter.	Recalibrate the meter at three orifice settings to determine a new value of Y.
Temperature sensor calibration	Absolute temperature measured by sensor within ± 1.5% of a reference sensor.	Prior to initial use and at least quarterly thereafter.	Recalibrate. Sensor may not be used until specification is met.
Barometer calibration	Absolute pressure measured by instrument within ± 10 mm Hg of reading with a mercury barometer.	Prior to initial use and at least quarterly thereafter.	Recalibrate. Instrument may not be used until specification is met.

And data from the pair of sorbent traps are also invalidated

9.0 Calibration and Standardization.

9.1 Only NIST-certified and NIST-traceable calibration standards (i.e., calibration gases, solutions, etc.) shall be used for the spiking and analytical procedures in this appendix.

9.2 Dry Gas Meter Calibration.

Prior to its initial use, perform a full calibration of the metering system at three orifice settings to determine the average dry gas meter coefficient (Y), as described in section 10.3.1 of Method 5 in appendix A–3 to part 60 of this chapter. Thereafter, recalibrate the metering system quarterly at one intermediate orifice setting, as described in section 10.3.2 of Method 5 in appendix A–3 to part 60 of this chapter. If a quarterly recalibration shows that the value of Y has changed by more than 5 percent, repeat the full calibration of the metering system to determine a new value of Y.

9.3 Thermocouples and Other Temperature Sensors.

Use the procedures and criteria in Section 10.3 of Method 2 in appendix A–1 to part 60 of this chapter to calibrate in-stack temperature sensors and thermocouples. Dial thermometers shall be calibrated against mercury-in-glass thermometers. Calibrations must be performed prior to initial use and at least quarterly thereafter. At each calibration point, the absolute temperature measured by the temperature sensor must agree to within ± 1.5 percent of the temperature measured with the reference sensor, otherwise the sensor may not continue to be used.

9.4 Barometer.

Calibrate against a mercury barometer. Calibration must be performed prior to initial use and at least quarterly thereafter. At each calibration point, the absolute pressure measured by the barometer must agree to within ± 10 mm Hg of the pressure measured by the mercury barometer, otherwise the barometer may not continue to be used.

9.5 Other Sensors and Gauges.

Calibrate all other sensors and gauges according to the procedures specified by the instrument manufacturer(s).

9.6 Analytical System Calibration.

See section 10.1 of this appendix.

10.0 Analytical Procedures.

The analysis of the Hg samples may be conducted using any instrument or technology capable of quantifying total Hg from the sorbent media and meeting the performance criteria in section 8 of this appendix.

10.1 Analyzer System Calibration.

Perform a multipoint calibration of the analyzer at three or more upscale points over the desired quantitative range (multiple calibration ranges shall be calibrated, if necessary). The field samples analyzed must fall within a calibrated, quantitative range and meet the necessary performance criteria. For samples that are suitable for aliquotting, a series of dilutions may be needed to ensure that the samples fall within a calibrated range. However, for sorbent media samples that are consumed during analysis (*e.g.*, thermal desorption techniques), extra care must be taken to ensure that the analytical system is appropriately calibrated prior to sample analysis. The calibration curve range(s) should be determined based on the anticipated level of Hg mass on the sorbent media. Knowledge of estimated stack Hg concentrations and total sample volume may be required prior to analysis. The calibration curve for use with the various analytical techniques (*e.g.*, UV AA, UV AF, and XRF) can be generated by directly introducing standard solutions into the analyzer or by spiking the standards onto the sorbent media and then introducing into the analyzer after preparing the sorbent/standard according to the particular analytical technique. For each calibration curve, the value of the square of the linear correlation coefficient, *i.e.*, r^2, must be ≥ 0.99, and the analyzer response must be within ± 10 percent of reference value at each upscale calibration point. Calibrations must be performed on the day of the analysis, before analyzing any of the samples. Following calibration, an independently prepared standard (not from same calibration stock solution) shall be analyzed. The measured value of the independently prepared standard must be within ± 10 percent of the expected value.

10.2 Sample Preparation.

Carefully separate the three sections of each sorbent trap. Combine for analysis all materials associated with each section, *i.e.*, any supporting substrate that the sample gas passes through prior to entering a media section (*e.g.*, glass wool, polyurethane foam, etc.) must be analyzed with that segment.

10.3 Spike Recovery Study.

Before analyzing any field samples, the laboratory must demonstrate the ability to recover and quantify Hg from the sorbent media by performing the following spike recovery study for sorbent media traps spiked with elemental mercury.

Using the procedures described in sections 5.2 and 11.1 of this appendix, spike the third section of nine sorbent traps with gaseous Hg^0, *i.e.*, three traps at each of three different mass loadings, representing the range of masses anticipated in the field samples. This will yield a 3 x 3 sample matrix. Prepare and analyze the third section of each spiked trap, using the techniques that will be used to prepare and analyze the field samples. The average recovery for each spike concentration must be between 85 and 115 percent. If multiple types of sorbent media are to be analyzed, a separate spike recovery study is required for each sorbent material. If multiple ranges are calibrated, a separate spike recovery study is required for each range.

10.4 Field Sample Analyses.

Analyze the sorbent trap samples following the same procedures that were used for conducting the spike recovery study. The three sections of the sorbent trap must be analyzed separately (*i.e.*, section 1, then section 2, then section 3). Quantify the mass of total Hg for each section based on analytical system response and the calibration curve from section 10.1 of this appendix. Determine the spike recovery from sorbent trap section 3. Pre-sampling spike recoveries must be between 75 and 125 percent. To report final Hg mass, normalize the data for sections 1 and 2 based on the sample-specific spike recovery, and add the normalized masses together.

11.0 Calculations and Data Analysis.

11.1 Calculation of Pre-Sampling Spiking Level.

Determine sorbent trap section 3 spiking level using estimates of the stack Hg concentration, the target sample flow rate, and the expected sample duration. First, calculate the expected Hg mass that will be collected in section 1 of the trap. The pre-sampling spike must be within ± 50 percent of this mass. Example calculation: For an estimated stack Hg concentration of 5 µg/m³, a target sample rate of 0.30 L/min, and a sample duration of 5 days:

(0.30 L/min) (1440 min/day) (5 days) (10^{-3} m³/liter) (5µg/m³) = 10.8 µg

A pre-sampling spike of 10.8 µg ± 50 percent is, therefore, appropriate.

11.2 Calculations for Flow-Proportional Sampling.

For the first hour of the data collection period, determine the reference ratio of the stack gas volumetric flow rate to the sample flow rate, as follows:

$$R_{ref} = \frac{KQ_{ref}}{F_{ref}} \qquad \text{(Eq. K-1)}$$

Where:

R_{ref} = Reference ratio of hourly stack gas flow rate to hourly sample flow rate

Q_{ref} = Average stack gas volumetric flow rate for first hour of collection period, adjusted for bias, if necessary, according to section 7.6.5 of appendix A to this part, (scfh)

F_{ref} = Average sample flow rate for first hour of the collection period, in appropriate units (*e.g.*, liters/min, cc/min, dscm/min)

K = Power of ten multiplier, to keep the value of R_{ref} between 1 and 100. The appropriate K value will depend on the selected units of measure for the sample flow rate.

Then, for each subsequent hour of the data collection period, calculate ratio of the stack gas flow rate to the sample flow rate using the equation K–2:

$$R_h = \frac{KQ_h}{F_h} \qquad \text{(Eq. K-2)}$$

Where:

R_h = Ratio of hourly stack gas flow rate to hourly sample flow rate

Q_h = Average stack gas volumetric flow rate for the hour, adjusted for bias, if necessary, according to section 7.6.5 of appendix A to this part, (scfh)

F_h = Average sample flow rate for the hour, in appropriate units (*e.g.*, liters/min, cc/min, dscm/min)

K = Power of ten multiplier, to keep the value of R_h between 1 and 100. The appropriate K value will depend on the selected units of measure for the sample flow rate and the range of expected stack gas flow rates.

Maintain the value of R_h within ± 25 percent of R_{ref} throughout the data collection period.

11.3 Calculation of Spike Recovery.

Calculate the percent recovery of each section 3 spike, as follows:

$$\%R = \frac{M_3}{M_s} \times 100 \qquad \text{(Eq. K-3)}$$

Where:

%R = Percentage recovery of the pre-sampling spike

M_3 = Mass of Hg recovered from section 3 of the sorbent trap, (µg)

M_s = Calculated Hg mass of the pre-sampling spike, from section 7.1.2 of this appendix, (µg)

11.4 Calculation of Breakthrough.

Calculate the percent breakthrough to the second section of the sorbent trap, as follows:

$$\%B = \frac{M_2}{M_1} \times 100 \qquad \text{(Eq. K-4)}$$

Where:

%B = Percent breakthrough

M_2 = Mass of Hg recovered from section 2 of the sorbent trap, (µg)

M_1 = Mass of Hg recovered from section 1 of the sorbent trap, (µg)

11.5 Normalizing Measured Hg Mass for Section 3 Spike Recoveries.

Based on the results of the spike recovery in section 12.3 of this appendix, normalize the Hg mass collected in sections 1 and 2 of the sorbent trap, as follows:

$$M^* = \frac{(M_1 + M_2)M_s}{M_3} \qquad \text{(Eq. K-5)}$$

Where:

M^* = Normalized total mass of Hg recovered from sections 1 and of the sorbent trap, (µg)

M_1 = Mass of Hg recovered from section 1 of the sorbent trap, unadjusted, (µg)

M_2 = Mass of Hg recovered from section 2 of the sorbent trap, unadjusted, (µg)

M_s = Calculated Hg mass of the pre-sampling spike, from section 7.1.2 of this appendix, (µg)

M_3 = Mass of Hg recovered from section 3 of the sorbent trap, (µg)

11.6 Calculation of Hg Concentration.

Calculate the Hg concentration for each sorbent trap, using the following equation:

$$C = \frac{M^*}{V_t} \qquad \text{(Eq. K-6)}$$

Where:

C = Concentration of Hg for the collection period, (µg/dscm)

M^* = Normalized total mass of Hg recovered from sections 1 and 2 of the sorbent trap, (µg)

V_t = Total volume of dry gas metered during the collection period, (dscm). For the purposes of this appendix, standard temperature and pressure are defined as 20° C and 760 mm Hg, respectively.

11.7 Calculation of Paired Trap Agreement.

Calculate the relative deviation (RD) between the Hg concentrations measured with the paired sorbent traps:

$$RD = \frac{|C_a - C_b|}{C_a + C_b} \times 100 \qquad \text{(Eq. K-7)}$$

Where:

RD = Relative deviation between the Hg concentrations from traps "a" and "b" (percent)

C_a = Concentration of Hg for the collection period, for sorbent trap "a" (µg/dscm)

C_b = Concentration of Hg for the collection period, for sorbent trap "b" (µg/dscm)

11.8 Calculation of Hg Mass Emissions.

To calculate Hg mass emissions, follow the procedures in section 9.1.2 of appendix F to this part. Use the average of the two Hg concentrations from the paired traps in the calculations, except as provided in § 75.15(h).

12.0 Method Performance.

These monitoring criteria and procedures have been applied to coal-fired utility boilers (including units with post-combustion emission controls), having vapor-phase Hg concentrations ranging from 0.03 µg/dscm to 100 µg/dscm.

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