following corrective action showing the CEMS to be operating within specifications.

5.3.1 Out-Of-Control Period Definition. The beginning of the out-of-control period is the hour immediately following the completion of a RATA, RAA, QGA or system integrity check that fails to meet the applicable performance criteria in section 5.3.3, below. The end of the out-of-control period is the time corresponding to the completion of a subsequent successful test of the same type.

5.3.2 Monitoring Data Status During Out-Of-Control Period. During the period the monitor is out-of-control, the monitoring data may not be used to determine compliance with an applicable emission limit or to meet a minimum data availability requirement in an applicable regulation or permit.

5.3.3 Criteria for Excessive Audit Inaccuracy. Unless specified otherwise in an applicable regulation or permit, the criteria for excessive inaccuracy are:

(a) For the RATA, the allowable RA in the applicable PS in appendix B (e.g., PS 12A or PS 12B).

(b) For the QGA, ±15 percent of the average audit value or ±0.5 μg/m³, whichever is greater.

(c) For the RAA, ±20 percent of the three run average or ±10 percent of the applicable standard, whichever is greater.

5.3.4 Criteria for Acceptable QC Procedures. Repeated excessive inaccuracies (i.e., out-of-control conditions resulting from the quarterly audits) indicates the QC procedures are inadequate or that the CEMS or sorbent trap monitoring system is incapable of providing quality data. Therefore, whenever excessive inaccuracies occur for two consecutive quarters, the source owner or operator must revise the QC procedures (see Section 3) or modify, repair, or replace the CEMS or sorbent trap monitoring system.

6.0 Reporting Requirements

6.1 Data Assessment Report. At the reporting interval specified in the applicable regulation or permit, report for each Hg CEMS and/or sorbent trap monitoring system the accuracy assessment results from Section 5, above. For Hg CEMS, also report the CD assessment results from Section 4, above. Report this information as a Data Assessment Report (DAR), and include the appropriate DAR(s) with the emissions report required under the applicable regulation or permit.

6.2 Contents of the DAR. At a minimum, the DAR must contain the following information:

6.2.1 Facility name and address including identification of source owner/operator.

6.2.2 Identification and location of each Hg CEMS and/or sorbent trap monitoring system.

6.2.3 Manufacturer, model, and serial number of each Hg CEMS and/or sorbent trap monitoring system.

6.2.4 CD Assessment for each Hg CEMS, including the identification of out-of-control periods.

6.2.5 System integrity check data for each Hg CEMS.

6.2.6 Accuracy assessment for each Hg CEMS and/or sorbent trap monitoring system, including the identification of out-of-control periods. The results of all required RATAs, QGAs, RAAs, and audits of auxiliary equipment must be reported. If an accuracy audit shows a CEMS or sorbent trap monitoring system to be out-of-control, report both the audit results that caused the out-of-control period and the results of the retest following corrective action, showing the monitoring system to be operating within specifications.

6.2.6. Summary of all corrective actions taken when the Hg CEMS and/or sorbent trap monitoring system was determined to be out-of-control.

6.3 Data Retention. As required in 40 CFR 60.7(d) and 63.10(b), all measurements from CEMS and sorbent trap monitoring systems, including the quality assurance data required by this procedure, must be retained by the source owner for at least 5 years.

7.0 Bibliography


APPENDIX G TO PART 60—PROVISIONS FOR AN ALTERNATIVE METHOD OF DEMONSTRATING COMPLIANCE WITH 40 CFR 60.43 FOR THE NEWTON POWER STATION OF CENTRAL ILLINOIS PUBLIC SERVICE COMPANY

1. Designation of Affected Facilities

1.1 The affected facilities to which this alternative compliance method applies are the Unit 1 and 2 coal-fired steam generating units located at the Central Illinois Public Service Company’s (CIPS) Newton Power Station in Jasper County, Illinois. Each of these units is subject to the Standards of Performance for Fossil-Fuel-Fired Steam
Generators for Which Construction Commenced After August 17, 1971 (subpart D).

2. Definitions

2.1 All definitions in subparts D and Da of part 60 apply to this provision except that:

24-hour period means the period of time between 12:00 midnight and the following midnight.

Boiler operating day means a 24-hour period during which any fossil is combusted in either the Unit 1 or Unit 2 steam generating unit and during which the provisions of § 60.43(e) are applicable.

CEMs means continuous emission monitoring system.

Coal bunker means a single or group of coal trailers, hoppers, silos or other containers that:

(1) are physically attached to the affected facility; and

(2) provide coal to the coal pulverizers.

DAFGDS means the dual alkali flue gas desulfurization system for the Newton Unit 1 steam generating unit.


3.1 If the owner or operator of the affected facility elects to comply with the 470 ng/J (1.1 lbs/MMBTU) of combined heat input emission limit under § 60.43(e), he shall notify the Regional Administrator, of the United States Environmental Protection Agency (USEPA), Region 5 and the Director, of the Illinois Environmental Protection Agency (IEPA) at least 30 days in advance of the date such election is to take effect, stating the date such operation is to commence.

When the owner or operator elects to comply with this limit after one or more periods of reverting to the 520 ng/J heat input (1.2 lbs/MMBTU) limit under § 60.43(a)(2), as provided under 3.4, the 30 day average emission rate under § 60.43(e) is calculated using emissions data of the current boiler operating day and data for the previous 29 boiler operating days when the affected facility was subject to § 60.43(e). Periods of operation of the affected facility under § 60.43(a)(2) are not considered boiler operating days. Emissions data collected during operation under § 60.43(a)(2) are not considered relative to 4.6 and emissions data are not included in calculations of emission under § 60.43(e).

3.2 When the affected facility is operated under the provisions of § 60.43(e), the Unit 1 DAFGDS bypass damper must be fully closed. The DAFGDS bypass may be opened only during periods of DAFGDS startup, shutdown, malfunction or testing as described under Sections 3.5.1, 3.5.2, 3.5.3, 3.5.4, and 4.8.2.

3.3 Compliance with the sulfur dioxide emission limit set forth in § 60.43(e) is based on the average combined hourly emission rate from Units 1 and 2 for 30 successive boiler operating days determined as follows:

\[ E_{30} = \frac{1}{n} \sum_{i=1}^{n} EC(i) \]

where:

- \( n \) is the number of available hourly combined emission rate values in the 30 successive boiler operating day period where Unit 1 and Unit 2 are subject to § 60.43(e).

\( EC_{30} \) = average emission rate for 30 successive boiler operating days where Unit 1 and Unit 2 are subject to § 60.43(e).

EC = hourly combined emission rate from Units 1 and 2, in ng/J or lbs/MMBTU.

3.3.1 The average hourly combined emission rate for Units 1 and 2 for each hour of operation of either Unit 1 or 2, or both, is determined as follows:

\[ EC = (E1 + E2) / (H1 + H2) \]

where:

\( E1 \) = the hourly combined SO2 emission rate, lbs/MMBTU, from Units 1 and 2 when Units 1 and 2 are subject to § 60.43(e).

\( E2 \) = the hourly SO2 mass emission, lb/hr, from Unit 1 as determined from CEMs data using the calculation procedures in section 4 of this appendix.

\( E30 \) = average emission rate from Units 1 and 2 for each hour of operation of either Unit 1 or 2, or both, as determined from CEMs data using the calculation procedures in section 4 of this appendix.
3.3 2 Periods of DAFGDS malfunction during system emergencies as defined in §60.41a.

3.3.1 The malfunction exemption in 3.5.4 is limited to the first 250 hours per calendar year of DAFGDS malfunction.

3.3.2 If data for any of the four hourly parameters (E1, E2, H1 and H2, under 3.3.1 are unavailable during an hourly period, the combined emission rate (EC) is not calculated and the period is counted as missing data under 4.6.1, except as provided under 3.5 and 4.4.2.

3.4 4 After the date of initial operation subject to the combined emission limit, Units 1 and 2 shall remain subject to the combined emission limit and the owner or operator shall remain subject to the requirements of this Appendix until the initial performance test as required by 3.2 is completed and the owner or operator of the affected facility elects and provides notice to revert on a certain date to the 520 ng/J heat input (1.2 lbs/MMBTU) limit of §60.43(a)(2) applicable separately at each unit. The Regional Administrator of the USEPA, Region 5 and the Director, of the IEPA shall be given written notification from CIPS as soon as possible of CIPs' decision to revert to the 520 ng/J heat input (1.2 lbs/MMBTU) limit of §60.43(a)(2) separately at each unit, but no later than 10 days in advance of the date such election is to take effect.

3.5 5 Emission monitoring data for Unit 1 may be excluded from calculations of the 30 day rolling average only during the following times:

3.5.1 6 Periods of DAFGDS startup.

3.5.2 7 Periods of DAFGDS shutdown.

3.5.3 8 Periods of DAFGDS malfunction during DAFGDS startup, or DAFGDS shutdown and malfunction except for CEMs breakdowns, repairs, calibration checks, and zero and span adjustment. All provisions of §60.45 apply except as follows:

4.2 6 The owner or operator shall install, calibrate, maintain, and operate CEMS and monitoring devices for measuring the following:

4.2.1 For Unit 1:

4.2.1.1 Sulfur dioxide, oxygen or carbon dioxide, and volumetric flow rate.

4.2.1.2 Moisture content of the flue gas.

4.2.2 For Units 1 and 2, the hourly heat input, the hourly steam production rate, or the hourly gross electrical power output from each unit.

4.3 For the Unit 1 bypass stack and the Unit 2 stack, the span value for the sulfur dioxide analyzer shall be equivalent to 200 percent of the maximum estimated hourly potential sulfur dioxide emissions of the fuel fired in parts per million sulfur dioxide. For the Unit 1 DAFGDS stack, the span value of the sulfur dioxide analyzer shall be equivalent to 100 percent of the maximum estimated hourly potential emissions of the fuel fired in parts per million sulfur dioxide. The span value for volumetric flow monitors is limited.
shall be equivalent to 125 percent of the maximum estimated hourly flow in standard cubic meters/minute (standard cubic feet per minute). The span value of the continuous moisture monitors, if required by 4.2.1.3 and 4.2.2.1, shall be equivalent to 100 percent by volume. The span value of the oxygen or carbon dioxide analyzers shall be equivalent to 25 percent by volume.

4.3.1-4.3.2 [Reserved]

4.4 The monitoring devices required in 4.2 shall be installed, calibrated, and maintained as follows:

4.4.1 Each volumetric flow rate monitoring device specified in 4.2 shall be installed at approximately the same location as the sulfur dioxide emission monitoring sample location.

4.4.2 Hourly steam production rate and hourly electrical power output monitoring devices for Unit 1 and Unit 2 shall be calibrated and maintained according to manufacturer’s specifications. The data from either of these devices may be used in the calculation of the combined emission rate in Section 3.3.1, only when the hourly heat input for Unit 1 (H1) or the hourly heat input for Unit 2 (H2) cannot be determined from CEM data, and the hourly heat input to steam production or hourly heat input to electrical power output efficiency over a given segment of each boiler or generator operating range, respectively, varies by less than 5 percent within the specified operating range, or the efficiencies of the boiler/generator units differ by less than 5 percent. The hourly heat input for Unit 1 (H1) or the hourly heat input for Unit 2 (H2) in Section 3.3.1 may also be calculated based on the fuel firing rates and fuel analysis.

4.4.3-4.4.5 [Reserved]

4.5 The hourly mass emissions from Unit 1 (E1) and Unit 2 (E2) and the hourly heat inputs, when leakage or diversion of any DAFGDS inlet gas to the bypass stack occurs:

4.5.1 The hourly SO2 mass emission from each respective stack is determined as follows:

\[ E = (C) (F) (D) (K) \]

Where:

- \( E \) = SO2 mass emission from the respective stack in lb per hour
- \( C \) = SO2 concentration from the respective stack ppm
- \( F \) = flue gas flow rate from the respective stack in scfm
- \( D \) = density of SO2 in lb per standard cubic foot
- \( K \) = time conversion, 60 mins/hr

4.5.2 The hourly heat input from each respective stack is determined as follows:

\[ H = (F) (C) (K) (V) (F) \]

where:

- \( H \) = heat input from the respective stack in MMBTU per hour
- \( C = CO_2 \) or \( O_2 \) concentration from the respective stack as a decimal
- \( F \) = flue gas flow rate from the respective stack in scfm
- \( K \) = time conversion, 60 mins/hr
- \( V \) = fuel constant for the appropriate diluent
- \( F \) = fuel constant for the appropriate diluent in scf/MMBTU as per §§60.45(f) (4) and (5)

4.5.3 The hourly SO2 mass emission for Unit 1 in pounds per hour (E1) is calculated as follows, when leakage or diversion of any DAFGDS inlet gas to the bypass stack occurs:

\[ E1 = (EF) + (EB) \]

Where:

- \( EF \) = Hourly SO2 mass emission measured in DAFGDS stack, lb/hr, using the calculation in Section 4.5.1.
- \( EB \) = Hourly SO2 mass emission measured in bypass stack, lb/hr, using the calculation in Section 4.5.1.

4.5.4 The hourly heat input for Unit 1 in MMBTU per hour (H1) is calculated as follows, when leakage or diversion of any DAFGDS inlet gas to the bypass stack occurs:

\[ H1 = (HF) + (HB) \]

where:

- \( HF \) = Hourly heat input as determined from the DAFGDS stack CEMs, in MMBTU per hour, using the calculation in Section 4.5.2.
- \( HB \) = Hourly heat input as determined from the DAFGDS bypass stack CEMs, in MMBTU per hour, using the calculation in Section 4.5.2.

4.6 For the CEMs required for Unit 1 and Unit 2, the owner or operator of the affected facility shall maintain and operate the CEMs and obtain combined emission data values (EC) for at least 75 percent of the boiler operating hours per day for at least 26 out of each 30 successive boiler operating days.

4.6.1 When hourly SO2 emission data are not obtained by the CEMs because of CEMs breakdowns, repairs, calibration checks and zero and span adjustment, hourly emission data required by 4.6 are obtained by using Methods 6 or 6C and 3 or 3A, 6A, or 8 and 3, or by other alternative methods approved by the Regional Administrator of the USEPA.
Region 5 and the Director, of the IEPA. Failure to obtain the minimum data requirements of 4.6 by CEMs, or by CEMs supplemented with alternative methods of this section, is violation of performance testing requirements.

4.6.2 Independent of complying with the minimum data requirements of 4.6, all valid continuous emission data collected are used to calculate combined hourly emission rates (EC) and 30-day rolling average emission rates (EO) are calculated and used to judge compliance with §60.43(e).

4.7 For each continuous emission monitoring system, a quality control plan shall be prepared by CIPS and submitted to the Regional Administrator of the USEPA, Region 5 and the Director, of the IEPA. The plan is to be submitted to the Regional Administrator of the USEPA, Region 5 and the Director, of the IEPA 45 days before initiation of the initial performance test. At a minimum, the plan shall contain the following quality control elements:

4.7.1 Calibration of continuous emission monitoring systems (CEMs) and volumetric flow measurement devices.
4.7.2 Calibration drift determination and adjustment of CEMs and volumetric flow measurement devices.
4.7.3 Periodic CEMs, volumetric flow measurement devices and relative accuracy determinations.
4.7.4 Preventive maintenance of CEMs and volumetric flow measurement devices (including spare parts inventory).
4.7.5 Data recording and reporting.
4.7.6 Program of corrective action for malfunctioning CEMs and volumetric flow measurement devices.
4.7.7 Criteria for determining when the CEMs and volumetric flow measurement devices are not producing valid data.
4.7.8 Calibration and periodic checks of monitoring devices identified in 4.4.2.

4.8 For the purpose of conducting the continuous emission monitoring system performance specification tests as required by §60.13 and appendix B, the following conditions apply:

4.8.1 The calibration drift specification of Performance Specification 2, appendix B shall be determined separately for each of the Unit 1 SO2 CEMs and the Unit 2 SO2 CEMs. The calibration drift specification of Performance Specification 3, appendix B shall be determined separately for each of the Unit 1 diluent CEMs and Unit 2 diluent CEMs.
4.8.2 The relative accuracy of the combined SO2 emission rate for Unit 1 and Unit 2, as calculated from CEMs and volumetric flow data using the procedures in 3.3.1, 4.5.1, 4.5.2 and 4.5.3 shall be no greater than 20 percent of the mean value of the combined emission rate, as determined from testing conducted simultaneously on the DAFGDS stack, the DAFGDS bypass stack and the Unit 2 stack using reference methods 2, 3, or 3A and 6 or 6C, or shall be no greater than 10 percent of the emission limit in §60.43(e), whichever criteria is less stringent. The relative accuracy shall be computed from at least nine comparisons of the combined emission rate values using the procedures in section 7 and the equations in section 8. Performance Specification 2, appendix B. Throughout, but only during, the relative accuracy test period the DAFGDS bypass damper shall be partially opened such that there is a detectable flow.
4.8.3-4.8.3.4 [Reserved]
4.9 The total monitoring system required by 4.2 shall be subject only to an annual relative accuracy test audit (RATA) in accordance with the quality assurance requirements of section 5.1.1 of 40 CFR part 60, appendix F. Each SO2 and diluent CEMs shall be subject to cylinder gas audits (OGA) in accordance with the quality assurance requirements of section 5.1.2 of appendix F with the exception that any SO2 or diluent CEMs without any type of probe or sample line shall be exempt from the OGA requirements.

5. Recordkeeping Requirements

5.1 The plant owner or operator shall keep a record of each hourly emission rate, each hourly SO2 CEMs value and hourly flow rate value, and each hourly Btu heat input rate, hourly steam rate, or hourly electrical power output, and a record of each hourly weighted average emission rate. These records shall be kept for all periods of operation of Unit 1 or 2 under provisions of §60.43(e), including operations of Unit 1 (E1) during periods of DAFGDS startup, shutdown, and malfunction. When H1 and E1 are assumed to be zero (0) (see 4.5).

5.2 The plant owner or operator shall keep a record of each hourly gas flow rate through the DAFGDS stack, each hourly stack gas flow rate through the bypass stack during any periods that the DAFGDS bypass damper is opened or flow is indicated, and reason for bypass operation.

6. Reporting Requirements

6.1 The owner or operator of any affected facility shall submit the written reports required under 6.2 of this section and subpart A to the Regional Administrator of the USEPA, Region 5 and the Director, of the IEPA for every calendar quarter. All quarterly reports shall be submitted by the 30th day following the end of each calendar quarter.

6.2 For sulfur dioxide, the following data resubmitted to the Regional Administrator of the USEPA, Region 5 and the Director, of the IEPA for each 24-hour period:

6.2.1 Calendar date
Environmental Protection Agency

6.2.2 The combined average sulfur dioxide emission rate (ng/J or lb/million Btu) for the past 30 successive boiler operating days (ending with the last 30-day period in the quarter), and, for any noncompliance periods, reasons for noncompliance with the emission standards and description of corrective action taken.

6.2.3 Identification of the boiler operating days for which valid sulfur dioxide emissions data required by 4.6 have not been obtained for 75 percent of the boiler operating hours; reasons for not obtaining sufficient data; and description of corrective actions taken to prevent recurrence.

6.2.4 Identification of the time periods (hours) when Unit 1 or Unit 2 were operated but combined hourly emission rates (EC) were not calculated because of the unavailability of parameters E1, E2, H1, or H2 as described in 3.2.

6.2.5 Identification of the time periods (hours) when Unit 1 and Unit 2 were operated and where the combined hourly emission rate (EC) equaled Unit 2 (E2H2) emissions because of the Unit 1 malfunction provisions under 3.5.3, and 3.5.4.

6.2.6 Identification of the time periods (hours) when emissions from the Unit 1 DAFGDS have been excluded from the calculation of average sulfur dioxide emission rates because of Unit 1 DAFGDS startup, shutdown, malfunction, or other reasons; and justification for excluding data for reasons other than startup or shutdown. Reporting of hourly emission rate of Unit 1 (E1H1) during each hour of the DAFGDS startup, malfunction under 3.5.1, 3.5.2, 3.5.3, and 3.5.4 (see 4.5).

6.2.7 Identification of the number of days in the calendar quarter that the affected facility was operated (any fuel fired).

6.2.8 Identify any periods where Unit 1 DAFGDS malfunctions occurred and the cumulative hours of Unit 1 DAFGDS malfunction for the quarter.

6.2.9 Identify any periods of time that any exhaust gases were discharged to the DAFGDS bypass stack and the hourly gas flow rate through the DAFGDS stack and through the DAFGDS bypass stack during such periods and reason for bypass operation.

6.2.10 [Reserved]


APPENDIX H TO PART 60 [RESERVED]

APPENDIX I TO PART 60—REMOVABLE LABEL AND OWNER’S MANUAL

1. Introduction

The purpose of this appendix is to provide guidance to the manufacturer for compliance with the temporary labeling and owner’s manual provisions of subpart AAA. Section 2 provides guidance for the content and presentation of information on the temporary labels. Section 3 provides guidance for the contents of the owner’s manual.

2. Temporary Labels

2.1 General

Temporary labels shall be printed on 90 pound bond paper and shall measure 5 inches wide by 7 inches long. All labels shall be printed in black ink on one side of the label only. The type font that shall be used for all printing is helvetica. Specific instructions for drafting labels are provided below depending upon the compliance status of the wood heater model. Figures 1 through 7 illustrate the various label types that may apply.

2.2 Certified Wood Heaters

The design and content of certified wood heaters vary according to the following:

- Catalyst or noncatalyst,
- Measured or default thermal efficiency value, and
- Compliance with 1988 or 1990 emission limit.

There are five parts of a label. These include:

- Identification and compliance status,
- Emission value,
- Efficiency value,
- Heat output value, and
- Caveats.

Instructions for drafting each of these five parts are discussed below in terms of the three variables listed above. Figures 1 and 2 illustrate the variations in label design. Figure 1 is a temporary label for a hypothetical catalyst wood heater that meets the 1990 standard, has a certification test emission composite value of 3.5 g/h, and has a default efficiency of 72 percent. The label in Figure 2 is for a hypothetical noncatalyst wood heater with a certification test emission composite value of 7.8 g/h and a measured efficiency of 68 percent. It meets the 1988 but not the 1990 standard. All labels for wood heaters that have been certified and tested should conform as much as possible to the general layout, the type font and size illustrated in Figures 1 and 2.

2.2.1 Identification and Compliance Status

The top 1.5 inches of the label should contain the following items (and location on the label):

- Manufacturer name (upper left hand corner),
- Model name/number (upper left hand corner),
- The words “U.S. ENVIRONMENTAL PROTECTION AGENCY” (centered at top and enclosed in a box with rounded edges).