



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 22 1986

MEMORANDUM

SUBJECT: Transmittal of National Program Guidance -  
Enforcement Applications of Continuous Emission  
Monitoring System Data

FROM: Edward E. Reich, Director *E. E. Reich*  
Stationary Source Compliance Division  
Office of Air Quality Planning and Standards

Michael S. Alushin *M. S. Alushin*  
Associate Enforcement Counsel  
Air Enforcement Division

TO: Addressees

Attached is final enforcement guidance advocating increased use of continuous emission monitoring system (CEMS) data for direct Federal enforcement of stationary source air pollution requirements. This guidance directly supports EPA's Continuous Compliance Strategy.

The guidance points out many important uses to which EPA can put CEMS data, both where CEMS is, and is not, the official compliance test method ("Compliance Method"). Since the guidance may be helpful to State and local agencies, the Regional Offices may forward it to them at their discretion.

Issues Raised by Commenters

On January 31, 1986, Headquarters sent out for comment a draft document entitled "Program Guidance on Enforcement Application of Continuous Emission Monitoring System Data". Six Regional Offices, ESED, CPDD and OGC commented on the draft of the guidance. In general, the commenters supported the draft. Some commenters sought clarifications or disagreed with certain elements of the draft. Commenters raised the following key issues:

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- ° Can CEMS data stand alone as the basis for issuing a Notice of Violation ("NOV") or Finding of Violation ("FOV")? Yes. Section 113(a)(1) of the Clean Air Act expressly permits the Administrator to issue an NOV "on the basis of any information available to him..." See Section III(B) and footnote 4 at page 3 of the Guidance.
- ° If an NOV does not spur compliance, must EPA issue a second NOV based on Compliance Method data to support further enforcement actions? A second NOV is not necessarily required. If a litigation referral is developed, however, it should include proof of violation based on Compliance Method data. See Section III(B) at page 4.
- ° Can EPA rely on CEMS data alone to issue a §113(a) administrative order where CEMS is not the Compliance Method? No. EPA should not issue an order for violation of an emission limit without having at least some Compliance Method data showing a violation of that limit.
- ° Are CEMS Data as Reliable as Compliance Method Data? CEMS data are likely to be as reliable and credible as Compliance Method data. See Section III(B) and footnote number 6 at pages 4 and 5.

Please direct any comments or questions about the guidance to Louis Paley (SSCD) or Laurence Groner (AED) at 382-2835 or 382-2820, respectively.

**Attachment**

**Addressees**

**Regional Counsels**

Region I - X

**Air Management Division Directors**

Region I, III, V and IX

**Air and Waste Management Division Director**

Region II

**Air, Pesticides, and Toxics Management Division Directors**

Region IV and VI

**Air and Toxics Division Directors**

Region VII, VIII and X

**Air Branch Chiefs**

Region I - X

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MEMORANDUM

SUBJECT: Guidance: Enforcement Applications of Continuous  
Emission Monitoring System Data

FROM: Edward E. Reich, Director *E. E. Reich*  
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I. Purpose and Application

The purpose of this guidance is to increase the use of continuous emission monitoring system ("CEMS") data in the Agency's compliance and enforcement program.<sup>1/</sup> EPA intends in this way to strengthen its efforts to ensure that sources comply with applicable law on a continuous basis and to enforce against those that do not.

This document addresses the following three enforcement applications for CEMS data:

- 1) the governing regulation specifies CEMS as the official compliance test method ("Compliance Method"), e.g., the Reference Method for the Standards of Performance for New Stationary Sources (NSPS);
- 2) the governing regulation specifies some method other than CEMS as the Compliance Method; and

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<sup>1/</sup> "CEMS" as used in this guidance principally means instrumental or manual continuous emission monitoring systems. Furthermore, as with any other data, "CEMS" as used in this guidance assumes that EPA confirms that the specific data, normally available from the source, are reasonably accurate and precise. This information includes data such as those acquired during Performance Tests, Performance Specification Tests, and periodic calibrations of the CEMS. For additional information see 6/.

- 3) the governing regulation concerns proper operation and maintenance, recordkeeping, and other requirements where no test method would be specified.

This guidance applies to any Federally-enforceable regulation or other requirement governing emissions, operations and maintenance ("O&M"), and monitoring and reporting procedures for stationary sources of air pollution. It should be read together with the attached document entitled "Guidance Concerning EPA's Use of Continuous Emission Monitoring Data" (August 12, 1982).<sup>2/</sup>

## II. Conclusion

EPA can put CEMS data to a variety of important enforcement uses, irrespective of whether the legal requirement being enforced specifies CEMS as the Compliance Method. For example, EPA can rely on CEMS data alone to issue Findings of Violation ("FOVs") and Notices of Violation ("NOVs").

However, the legal requirement must specify CEMS as the Compliance Method in order for EPA to rely on CEMS data alone to refer a case to the Department of Justice ("DOJ"), to prove a violation of an emission limitation in Federal district court, or to issue a Notice of Noncompliance ("NON") under §120. The same is true if EPA is to rely on CEMS data alone to issue an administrative order respecting emissions violations under §113(a).

On technical grounds, CEMS data typically are at least comparable to Compliance Method and inspection data derived from equally well-executed and quality-assured monitoring. CEMS data certainly are more representative of actual continuous emissions than are some traditional sources of compliance data, such as emission factors and engineering calculations.

## III. Discussion

### A. Where the Governing Regulation Specifies CEMS as the Compliance Method

CEMS is the Compliance Method in NSPS Subparts Da (covering new electric steam generators), P, Q and R (covering new non-ferrous smelters), and in certain SIP provisions, Federally-

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<sup>2/</sup> The 1982 guidance clarifies, among other things, the circumstances under which CEMS constitutes the applicable Compliance Method and the role played by CEMS under State Implementation Plans ("SIPs") which do not identify any Compliance Method.

enforceable compliance orders and permits. For sources covered by these provisions, EPA can rely on CEMS data alone to take all of the following enforcement actions:

1. Devise a priority list for inspections and other investigative activities;
2. Issue NOVs to SIP sources, or FOVs to non-SIP sources;<sup>3/</sup>
3. Document that a violation has continued 30 days beyond the date of the NOV in SIP cases;
4. Quantify the severity of violations for penalty calculation purposes, in negotiation or litigation;
5. Issue an administrative order under §113(a);
6. Issue a §120 NON;
7. Formally refer a case to the DOJ for filing as a civil or criminal action; and
8. Prove a violation in civil or criminal litigation in Federal district court.

B. Where the Governing Regulation Specifies Some Method Other Than CEMS as the Compliance Method

Here, CEMS data still can be very useful in initiating and supporting cases alleging emission violations. The Agency can rely on CEMS data alone to take any of the first four enforcement actions listed at Section III(A) above.

For example, EPA can use CEMS data standing alone as the basis for issuing an NOV or FOV for violation of an emission limitation.<sup>4/</sup> Proof of the existance of a violation of an emission limit for purposes of a compliance order or litigation virtually always must be based on Compliance Method data. However, issuance of an NOV or FOV requires a less rigorous evidentiary showing.

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<sup>3/</sup> While some Regional Offices do issue FOVs, it should be noted that EPA has no legal obligation to do so.

<sup>4/</sup> The Clean Air Act expressly permits the Administrator to issue an NOV "on the basis of any information available to him ... that any person is in violation of any requirement of an applicable implementation plan". 42 USC §7413(a)(1).

If after issuance, the source fails to come into compliance with the emission regulation, EPA normally must acquire Compliance Method evidence before it takes any of the last four enforcement actions listed at Section III(A) above.<sup>5/</sup> However, a second NOV is not necessary under these circumstances, assuming that there is evidence that a sufficient relationship exists between the CEMS data and the Compliance Method data.

In addition, CEMS data also can be used in support of emission violation cases to quantify emission levels and to document that a violation continued 30 days beyond the NOV issuance date. While EPA is frequently prepared to argue that any particular day should be considered a day of violation in the absence of emission data per se, CEMS data should serve to strengthen the government's case.

We believe that courts will generally accept non-Compliance Method CEMS data as an indicator of the magnitude and duration of emission violations because they represent emissions comparably to Compliance Method data.<sup>6/</sup>

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<sup>5/</sup> However, in most circumstances a Regional Office may rely on non-Compliance Method CEMS data alone to support a referral where it constitutes a pre-negotiated settlement agreement, referred for the single purpose of lodging with the court. The exception would be in situations where adverse public comments on the decree may be expected, and that could lead the government not to request the court to enter the decree. In such exceptional circumstances, the referral must be based upon Compliance Method data.

<sup>6/</sup> We assume that CEMS and Compliance Method data will be reliable and comparable to each other. This assumption is based principally upon three facts. First, the Agency requires sources to acquire and report reliable data (whether CEMS or Compliance Method). With respect to CEMS, this is accomplished by requiring sources to: (a) purchase, install and operate the CEMS in accordance with specific location criteria and performance standards; (b) demonstrate achievement of the Performance Specifications by comparing the CEMS and the Compliance Method results; (c) implement (at least daily) calibrations and O&M procedures; and (d) operate the CEMS during all Performance Tests. (If doubts remain, EPA can require additional comparative tests using \$114.)

Second, the Agency has acquired data from numerous sources. Such data document the fact that sources are able to, and generally do report reliable and comparable data to agencies. Such documentation includes data acquired: (a) during the (footnote <sup>6/</sup> continued on page 5)

Finally, of course, CEMS data provide an altogether appropriate basis upon which to issue a \$114 request for Compliance Method data.

C. Where No Compliance Method Is Specified by the Governing Regulation

This Section applies exclusively to requirements which govern violations of other than emission regulations. Here, the Agency may rely upon CEMS data alone to enforce directly various O&M, monitoring, recordkeeping and reporting requirements set out in NSPS regulations, SIPs, and Federally-enforceable orders and permits.

For example, Section 60.11(d) of the NSPS regulations establishes a general "good practices" O&M requirement. This requirement identifies no specific compliance method. Rather, it states that the "determination of whether acceptable ... procedures are being used will be based on information ... which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source." (Emphasis added.) Similar language is contained in many SIPs. CEMS data alone are sufficient to prove violations of such O&M requirements.

IV. Recommendations

CEMS provides a very useful and versatile source of enforcement data. EPA can use such data to take many traditional enforcement actions, often even when CEMS is not specified as the Compliance Method. Therefore, we encourage Regional Offices to use CEMS data consistent with the aforementioned paragraphs.

In addition, we encourage Regional Offices to:

- A. Make CEMS data acquisition and evaluation a standard operating procedure;

(continuation of footnote 6/)  
development of the CEMS Performance Specifications and (Proposed) Appendix F of Part 60 (Quality Assurance Requirements for SO<sub>2</sub> CEMS); (b) by receipt of hundreds of Performance Specification Test Results; and (c) while performing quality assurance and compliance audits of CEMS. (See, e.g., EPA publications entitled "Summary of Opacity and Gas CEMS Audit Programs" (EPA-340/1-84-016, September 1984); and "A Compilation of SO<sub>2</sub> and NO<sub>x</sub> Continuous Emission Monitor Reliability Information" (EPA-340/1-83-012, January 1983).)

Third, all certifications of visible emission observers are based upon quantitative comparisons between observers and "smoke schools'" opacity CEMS.



- B. Cite CEMS data as supplementary evidence of violations in each NOV or §113(a) administrative order issued whenever the CEMS data substantiate the primary evidence; and
- C. Incorporate CEMS into ongoing enforcement actions (e.g., (1) consider requiring chronic violators to install and use CEMS; (2) cite CEMS procedural violations whenever they exist; and (3) cite the source for failure to properly operate and maintain its facility, based upon CEMS data).

Attachment

Addressees

Regional Counsels  
Region I - X

Air Management Division Directors  
Region I, III, V and IX

Air and Waste Management Division Director  
Region II

Air, Pesticides, and Toxics Management Division Directors  
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AUG 12 1982

OFFICE OF  
AIR, NOISE AND RADIATION

MEMORANDUM

**SUBJECT:** Guidance Concerning EPA's Use of Continuous  
Emission Monitoring Data

**FROM:** Kathleen M. Bennett *Kathleen M. Bennett*  
Assistant Administrator for Air, Noise and Radiation

**TO:** Directors, Air and Waste Management Divisions,  
Regions II-IV, VI-VIII, and X

Directors, Air Management Divisions,  
Regions I, V and IX

This memorandum addresses EPA's use of Continuous Emission Monitoring (CEM) data in enforcement of NSPS and SIP emission and operating and maintenance (O&M) provisions and in other general EPA activities. It provides guidance as to when, as a legal matter, continuous emission monitoring constitutes the test method associated with an emission limitation. It is not intended to preclude the exercise of reasoned discretion by an enforcing agency based on a review of the representativeness of the data and the circumstances giving rise to the excess emissions.

Use of CEMs that are Specified as the Source Compliance Test Method

In each instance where CEMs have been promulgated or approved by the Agency as an official method to determine source compliance with the applicable emission limitations, the Agency can rely upon CEM data when making compliance determinations. CEMs have been specifically prescribed as the method to establish emission violations for one or more pollutants in the following instances:

- ° NSPS electric utility steam generating units, regulated by 40 CFR Part 60 Subpart Da;
- ° NSPS primary nonferrous smelters, regulated by 40 CFR Part 60 Subparts P, Q and R;
- ° NSPS stationary gas turbines, regulated by 40 CFR Part 60 Subpart GG;
- ° various sources regulated by permits, orders, or consent decrees in which CEM has been specifically designated as the test method;

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- ° various types of sources which are regulated by SIPs (e.g., Nevada SIP, 40 CFR §52.1475(d)) where the State has specified CEM as the test method.

Some sources object to EPA's reliance upon CEM data to enforce SIP emission provisions for source categories for which EPA has not specified the use of CEMs in comparable NSPS regulations. Such an objection is not legally supportable, since States have the right to specify their own methods in their SIPs, even if they are different from those imposed by EPA for NSPS sources. Section 1.0 of Appendix P to 40 CFR Part 51 delineates that SIPs may specify that CEM data be used "directly or indirectly for compliance determinations or any other purpose deemed appropriate by the State." The Agency can rely upon CEM data for compliance determinations whenever such methods are specified in the EPA-approved SIP.

#### Use of CEMs in SIPs where an Emission Compliance Test Method is Not Specified

There are some instances when SIPs do not specify a compliance test method. When that occurs, the applicable regulation, 40 CFR §52.12(c)(1), states that for the purpose of Federal enforcement:

"sources subject to plan provisions which do not specify a test procedure... will be tested by means of the appropriate procedures and methods prescribed in Part 60 of this chapter; unless otherwise specified in this part."

Generally, Part 60 does not specify CEM as the compliance test method and therefore EPA cannot use CEM data to determine source compliance with a SIP emission limitation. However, in accordance with §52.12(c)(1), CEM data would be the applicable test method for the two categories of sources for which it is the NSPS performance test method, nonferrous smelters (as in Subparts P, Q and R); and stationary gas turbines (as in Subpart GG).

The Agency shall rely upon CEM data to determine a source's compliance status with a SIP emission limit for smelters (for SO<sub>2</sub>) and for stationary gas turbines (for NO<sub>x</sub>). Since CEM is the only compliance test method specified in Part 60 for these source categories, CEM is clearly the "appropriate" method under Part 60 for purposes of §52.12(c)(1).

In addition, there is some ambiguity regarding the appropriate procedures for fossil-fuel-fired steam generators prescribed in Part 60 because Part 60 contains two significantly different types of SO<sub>2</sub> and NO<sub>x</sub> performance test methods. Specifically, Subpart D specifies

Reference (stack test) Methods 6 and 7 as the performance test methods for SO<sub>2</sub> and NO<sub>x</sub> emissions, respectively. However, Subpart Da specifies use of CEM data to determine compliance with the SO<sub>2</sub> and NO<sub>x</sub> emission standards.

The Agency shall rely upon the performance test methods specified in Subpart D (Reference Methods 6 and 7) to determine a source's compliance status with SIP SO<sub>2</sub> and NO<sub>x</sub> emission limits for fossil-fuel-fired steam generators. For this category of sources, it is more consistent with the development of the SIPs to use these methods since they are the traditional compliance test methods for this source category. (For new sources actually subject to Subpart Da, we would not expect this issue to arise since new source permits should specify the applicable test method.)

#### Use of CEM's where State Regulations Contain Discretionary Authority as to Compliance Test Methods

A problem in interpreting the SIP continually arises because most SIPs specify test methods (often adopting EPA methods by reference) but also allow for discretionary acceptance of an "equivalent" or an appropriate "alternative" by the State. Relying on such language, many States have accepted CEM data as an adequate demonstration of compliance and have used such data to determine the existence of a violation.

Since EPA's enforcement authority is guided by State regulations specifically approved in the SIP, questions have been raised as to whether EPA will independently apply State discretionary authority and interpret what is reasonable as an "equivalent" or "alternative" compliance test method, or, if not, whether EPA may follow the State's lead, if the State chooses to allow CEM as the test method.

The answer is that EPA will not independently exercise such authority. Only when the State has exercised such authority to adopt CEM as a test method and when the exercise of that authority has been reflected in the SIP, will EPA use CEM as the test method.

#### Use of CEM Data for Determining Potential Operations and Maintenance (O&M) Violations

NSPS regulations (40 CFR 60.11(d)) specify that "at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information

available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source." Many SIP's have similar provisions requiring proper operation and maintenance. Use of CEM data, while not necessarily conclusive, is a valid indicator of compliance with requirements such as §60.11(d) and can be used as such.

#### Use of CEMs as a General Compliance Monitoring Tool

CEMs can provide the Agency with useful data for circumstances other than those delineated above. For instance, CEM data can be used to: (1) screen a source's compliance status (with both emission limitations and O&M requirements); (2) select which sources should be inspected or compliance (stack) tested; (3) document the severity (e.g., duration, magnitude and frequency) of a source's excess emissions; and (4) document that a compliance test was performed during "non-representative" operating conditions.