

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
AMENDMENTS TO 35 ILL. ADM.) **R09-10**
CODE 225: CONTROL OF EMISSIONS) **(Rulemaking – Air)**
FROM LARGE COMBUSTION SOURCES)

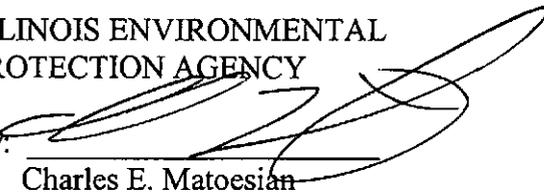
NOTICE

TO: John Therriault, Assistant Clerk
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SEE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that I have today filed with the Office of the Pollution Control Board the AMENDED TESTIMONY OF DAVID BLOOMBERG and JIM ROSS of the Illinois Environmental Protection Agency a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: 

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DATED: December 10, 2008

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ON RECYCLED PAPER**

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AMENDED TESTIMONY OF JIM ROSS

Qualifications

My name is Jim Ross and I am here today representing the Illinois Environmental Protection Agency (Illinois EPA) where I am the Division of Air Pollution Control Manager in the Bureau of Air.

I have a Bachelors of Science Degree in Mechanical Engineering from Southern Illinois University at Carbondale. I have completed numerous environmental courses over the years including the study of emissions and controls of each of the criteria air pollutants, many hazardous air pollutants, as well as several courses on the background and implementation of environmental regulations. I have also provided training on air pollution permitting and regulations to Illinois EPA and United States Environmental Protection Agency (USEPA) staff, persons from industry, environmental consulting firms, environmental organizations, and the general public.

In my current position as Division Manager, I supervise a large staff of over 150 engineers, specialists, and administrative support personnel in developing, monitoring, and enforcing State and Federal air pollution control requirements. I am also an Illinois EPA Duty Officer which requires me to be on call 24 hours a day, seven days a week during several periods throughout the year. In this capacity, I am responsible for ensuring Illinois EPA's response to emergencies

incidents anywhere in the State, especially those involving hazardous materials, oil spills, natural disasters, and issues of homeland security.

In my 20 years with the Illinois EPA, I have been involved with detailed review of Illinois' industrial processes and their emissions of air pollutants and the measures and controls used to mitigate these emissions. This review has included on-site visits to a wide-variety of processes, including steel mills, large chemical plants, refineries, and coal-fired power plants. I have helped develop and implement several major programs and rules since their inception including the CAAPP and Illinois' volatile organic material trading program for the greater Chicago area, i.e., the Emissions Reduction Market System. As Permit Section Manager, I oversaw the permitting of over 6,000 facilities in the State. I was deeply involved in the CAAPP permitting of Illinois' 22 coal-fired power plants, including representing the Illinois EPA at several public hearings on the proposed permits. Furthermore, I have overseen the Illinois EPA's efforts in the development of several rulemaking efforts, including the Illinois mercury rule.

My testimony will provide background information and a broad overview of the revisions being proposed to the Illinois mercury rule. I would like to note that the Illinois EPA performed significant outreach to stakeholders on the proposed revisions, including holding a stakeholder outreach meeting on July 22, 2008 where we presented information on the proposed rule revisions, requested feedback on issues, and held a question and answer session. We also provided interested parties regular mail and e-mail addresses to allow submittal of comments and questions that were answered at the stakeholder meeting. In addition, we repeatedly offered to meet with any stakeholders in smaller groups to discuss the rule and related issues, and in fact held several such meetings.

Introduction

On January 5, 2006, Illinois Governor Rod Blagojevich announced an aggressive proposal to reduce mercury emissions from Illinois' coal-fired power plants by 90 percent beginning mid 2009. After nearly a full year of stakeholder meetings, contested public hearings, rulemaking procedural processes, and lengthy negotiations, the Illinois mercury rule (i.e., 35 Ill. Adm. Code

Part 225 Subpart B) was unanimously approved by both the Illinois Pollution Control Board and the Joint Committee on Administrative Rules. The Illinois mercury rule became effective on December 21, 2006. This rule requires coal-fired power plants in Illinois to achieve greater reductions of mercury and achieve these reductions more quickly than that proposed in May 2005 by the USEPA under the federal Clean Air Mercury Rule (CAMR).

On February 8, 2008, the United States Court of Appeals for the District of Columbia Circuit vacated the USEPA CAMR. This court action raised concerns regarding the status of certain federal provisions in 40 CFR Part 75 (Part 75) dealing with the monitoring of mercury emissions. Due to the incorporation of several of these federal mercury monitoring provisions into the Illinois mercury rule and given the current uncertainty surrounding these provisions, the Illinois EPA has determined that a revision to the Illinois mercury rule is appropriate.

Proposed Revisions

The proposed revisions are extremely limited in scope and do not include any revisions to the emission and control standards themselves. The primary focus of the proposed revisions is on the methods used to measure mercury emissions for the demonstration of compliance with the emissions and control requirements. Mercury monitoring via a continuous emissions monitoring system (CEMS) will continue to be an option for measuring mercury emissions. The proposed revisions also add stack testing as an alternative method to monitoring. This will provide sources with flexibility in their methods used to measure mercury emissions for compliance demonstrations. Further proposed amendments to the rule include the addition of two approved sorbents for use in mercury control, reconstituting the provisions of Part 225 Subpart F (i.e., Combined Pollutant Standard) into Part 225 Subpart B, and the replacement of specific citation to the Clean Air Interstate Rule (CAIR) with citation to any trading program. The last revision is needed due to the July 11, 2008 vacatur of CAIR and the uncertainty on what the citation would be to any future trading program for nitrogen oxides (NO_x) and sulfur dioxide (SO₂) allowances. The Illinois EPA considers these last few amendments as "housekeeping" measures.

Continuous Emissions Monitoring

The Illinois EPA continues to support CEMS for measuring emissions of mercury from electric generating units (EGUs) for demonstrating compliance with the Illinois mercury rule. CEMS were deemed by the USEPA to be a technically feasible and economically reasonable method of measuring mercury emissions while promulgating CAMR, and these same methods were incorporated into the Illinois mercury rule. The Illinois EPA has received assurances from USEPA of their support for such an approach, however, USEPA has recently indicated that they believe there are legal constraints regarding their ability to accept mercury monitoring data from sources. Therefore, the Illinois EPA is currently working on an alternative approach that would require sources to directly submit a summary of monitoring data to Illinois EPA.

Previously, the Illinois mercury rule incorporated federal Part 75 by reference. The proposed amendments include the appropriate provisions of Part 75 monitoring requirements, with noted changes. Such changes include the removal of provisions that were appropriate only with the existence of a national mercury trading program and a state-by-state emissions cap (e.g., bias adjustment factor, missing data substitution).

Stack Testing Alternative

Stack testing provides a measure of flexibility and certainty for sources in demonstrating compliance and therefore is being proposed as a temporary means to demonstrate compliance during this time of uncertainty. This additional flexibility is also appropriate as Illinois is no longer required to demonstrate compliance with a mercury emissions cap for purposes of CAMR. The Illinois EPA has broad historic knowledge and experience with the use of stack testing for emissions measurement and compliance demonstrations. Quarterly stack testing, along with the monitoring of source operating parameters, will provide sources an alternative to CEMS monitoring of mercury emissions for a three-year period. The Illinois EPA anticipates that during this three-year window new federal regulations will prescribe monitoring provisions for mercury emissions and that the Illinois EPA will either adopt, or otherwise allow the use of, those provisions to demonstrate compliance with the Illinois mercury rule going forward.

Approved Sorbents

The Illinois mercury rule includes a list of approved sorbent manufacturers whose sorbents have been tested and demonstrated to achieve a high level of mercury control as of the time of the rulemaking process. The rule also allows the use of any other halogenated activated carbon or sorbent that has demonstrated similar or better effectiveness for control of mercury emissions. Since the promulgation of the Illinois mercury rule Calgon Carbon has demonstrated to the Illinois EPA that two of their sorbents obtain a similar or better level of control in comparison to the approved sorbents. As a result, it is proposed that Calgon Carbon's sorbents be included as an approved sorbent for mercury control.

Combined Pollutant Standard

The Combined Pollutant Standard (CPS) was negotiated between the Illinois EPA and Midwest Generation during the original mercury rulemaking process. Similar to the Multi-Pollutant Standard currently contained in the Illinois mercury rule, the CPS allows flexibility in complying with the mercury provisions in exchange for SO₂ reductions, NO_x reductions, and other considerations agreed to by the parties. The desire at the time when agreement was reached between the parties was to include the CPS in the Illinois mercury rule, however, the rule was in the final stages of adoption and therefore it was inappropriate at that time to reopen the rule for inclusion of the CPS. The CPS was subsequently included in Illinois' CAIR. Consistent with the original desire and determination that the more appropriate place for the CPS was in the Illinois mercury rule, it is proposed that the CPS now be removed from CAIR and included in the Illinois mercury rule.

Summary

Limited revisions to the Illinois mercury rule are appropriate in light of the vacatur of CAMR. The proposed revisions are focused on the methods allowed to measure mercury emissions for demonstration of compliance. The proposed revisions do not include any change to the emissions and control requirements for mercury emissions and therefore the level of mercury

control required by the rule is not affected. Aside from providing additional flexibility to sources for compliance purposes, these proposed amendments represent little substantive change from the implementation of the Illinois mercury rule prior to the vacatur of CAMR.

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AMENDED TESTIMONY OF DAVID E. BLOOMBERG

Good afternoon. My name is David E. Bloomberg. I am employed by the Illinois Environmental Protection Agency (Illinois EPA) as the Compliance Unit Manager in the Compliance Section within the Division of Air Pollution Control. I have been at the Agency in this capacity for approximately four and a half years, and was previously an Environmental Protection Engineer in the Air Quality Planning Section for twelve and a half years. My academic credentials include a Bachelor of Science degree in ceramic engineering from the University of Illinois at Champaign-Urbana, as well as completion of all graduate coursework required for a Master's degree in the same field.

I have also completed numerous environmental courses over the years, including the United States Environmental Protection Agency's (USEPA's) Air Pollution Training Institute courses on source sampling (also known as emissions testing or stack testing) and continuous emissions monitoring systems (CEMS). I have also provided training on air pollution compliance issues to industry personnel and environmental consultants.

Among my duties, I supervise the Bureau of Air staff who review emissions tests and CEMS tests, and I sign off on all such reviews before they are finalized. I also supervise the staff reviewing other source documents, such as exceedance, semi-annual, and annual compliance reports. In addition, I participate in decisions regarding enforcement of the Board's air pollution regulations and oversee the process of sending out Violation Notices and related activities.

In my 17 years with the Illinois EPA, I have been involved in designing, writing, implementing, and enforcing a wide variety of air pollution regulations, including those for mercury, NOx trading, the Clean Air Interstate Rule (CAIR), the Emissions Reduction Market System (ERMS), and several industry-specific rules.

I am here today to provide testimony and to answer questions that might arise primarily regarding the portions of the Illinois EPA's proposed rule changes for compliance demonstrations, the Multi-Pollutant Standard (MPS) and Combined Pollutant Standard (CPS), and the elimination of the bias adjustment factor and missing data procedures.

Compliance Demonstrations for CEMS

The Illinois Mercury Rule, like the vacated Clean Air Mercury Rule (CAMR) before it, requires submittal of electronic data to USEPA and the Illinois EPA. Previously, USEPA had assured states in general, and the Illinois EPA specifically, that they would provide the support for receipt and quality assurance of that data at a level equal to that which would have been provided under the CAMR. However, last week, USEPA indicated to the Illinois EPA that they now believe there are legal constraints to them accepting the data and they cannot provide that support.

The intent in these proposed revisions was to ensure that reporting protocols would be consistent with those anticipated under CAMR for sources utilizing CEMS monitoring and reporting. However, these new circumstances do not require any change in the proposed regulations, as the proposed rule modifications already include provisions allowing the Illinois EPA to specify a different format for data reporting, thus giving additional flexibility and reassurance to sources while ensuring that Illinois EPA receives the necessary data. The Illinois EPA is currently working on an alternative approach that would involve sources submitting summary monitoring data along with a certification of truth and accuracy. We will provide further information on what we expect to see in the near future.

Compliance Demonstrations for Emissions Testing

Sources opting to demonstrate compliance with Illinois' mercury emissions standards using the Periodic Emissions Testing Alternative Requirements will report emissions test results, parametric monitoring data during the emissions tests, and parametric monitoring data from the reporting period to the Illinois EPA. This data will be used to determine whether the source is complying with the 90% mercury removal standard or the 0.0080 lbs/GWh output-based standard. This proposed optional alternative provides additional flexibility to sources while not modifying the Illinois mercury emission standards during the three-year interval that the alternative is available.

Sources using the emissions testing alternative must operate the EGU and all associated relevant controls in a manner similar to that under which the unit was tested and compliance was demonstrated. To ensure such operations, sources will be required to submit a Continuous Parameter Monitoring Plan with their protocol to describe how they will accomplish this requirement. The proposal also contains recordkeeping and reporting requirements that further ensure proper operations in this regard.

MPS and CPS

Minimal technical changes are being proposed to the MPS and the CPS. Those that are included are focused on adding flexibility consistent with the rest of the rulemaking and are mostly focused on the changes necessary to deal with the vacatur of CAMR.

One such addition is that, for a three-year period, sources complying by use of the MPS or CPS may choose a version of the alternative emissions testing rather than the use of

CEMS. More detailed technical information on such testing is contained in Mr. Mattison's testimony. However, it should be noted that a primary reason for the necessity of emissions testing for MPS and CPS sources if they are not using CEMS is that while they are not required to meet the control or emissions standards of 90% or 0.0080 lb Hg/GWh, there is a need for a method by which the source and the Illinois EPA can ensure that mercury controls are being operating in an optimum manner, as required by the rule, and consistent with the expected control levels. A test showing a low level of mercury control could reveal inadvertent changes at a source that would not otherwise be identified, indicate that the sorbent is not being injecting in the optimum manner, suggest that that an unsatisfactory sorbent is being used, or show that the quality of the sorbent being used has decreased.

In addition to the changes related to the vacatur of CAMR, additional flexibility is also being added for sources in the MPS and CPS. Both the MPS and CPS contain lists of approved sorbents and sorbent manufacturers, along with a method by which sources can demonstrate that another sorbent gets similar or better effectiveness for control of mercury and thus can be approved for use. Two such sorbents have been approved by the Illinois EPA for use at several Illinois sources, and thus the Illinois EPA is taking this opportunity to add them in this rulemaking. The two sorbents are Calgon Carbon's FLUEPAC MC Plus and Calgon Carbon's FLUEPAC CF Plus, the second of which is proposed in the Agency's First Errata Sheet.

It should be noted that for all approved sorbents, sources must follow Section 225.233(c)(2) or 225.294(g), which state, "the EGU must inject halogenated activated carbon in an optimum manner." This is further clarified in the rules as including "The use of an injection system designed for effective absorption of mercury, considering the configuration of the EGU and its ductwork."

As such, injecting in an optimum manner should include consideration of the placement of the injection lance. For example, some sorbents have been shown through testing to get a much higher level of control (around 90%) when injected upstream of the preheater as opposed to downstream of the preheater. In such a situation, injection upstream is clearly "optimum" in comparison to injecting downstream, and absent other data to justify downstream injection, the source would need to inject upstream of the preheater to be in compliance with the regulations.

An objective of injecting the sorbent in an optimum manner is to attempt to obtain mercury control consistent with the mercury rule's standard, or around 90%. Indeed, Jim Staudt, a consultant, provided data and information at the original Illinois Mercury Rulemaking that most mercury control systems at Illinois EGUs injecting at the default sorbent rates listed in the MPS and CPS should be able to obtain at or near 90% control of mercury emissions.

Bias Adjustment Factor

The Illinois EPA is proposing to delete references to the bias adjustment factor (BAF) for mercury monitoring. The BAF was originally promulgated in 40 CFR Part 75, Appendix A, Section 7.6, and was vacated along with CAMR. It was intended to ensure that CEMS did not record mercury readings lower than emissions measured by a reference method. The BAF was intended to account for underestimation of mercury emissions from a CEMS that failed a bias test, resulting in higher reported emissions.

While conservatively reporting higher emissions was necessary when CAMR and its associated federal trading and monitoring regulations were in force, the BAF is unnecessary in the current situation. After considering the situation after the CAMR vacatur, the Illinois EPA did not include the BAF in the new regulatory language that was taken from Part 75, and struck references to the BAF where it might have appeared in the previously-promulgated Illinois Mercury Rule.

Missing Data Procedures

The Illinois EPA is also proposing to delete references to missing data substitution procedures. These procedures are used when monitors are offline to produce a conservative estimate of mercury emissions during that period, and were included to ensure that affected sources would operate their CEMS with the least possible down time in order to generate a complete record of a source's mass mercury emissions. This kind of procedure is frequently a requirement of rules that involve a trading program, and like the BAF, were included in the Illinois Mercury Rule to maintain consistency with CAMR and the relied-upon monitoring provisions therein. However, in the Illinois command and control rule with the CAMR vacatur, such procedures are unnecessary.

As a replacement to the missing data procedures, the Illinois EPA is proposing a monitor availability requirement, similar to that found in other non-trading rules that require CEMS. The 75% uptime requirement proposed has been found to be achievable by USEPA and is comparable to the level of monitor availability for mercury monitoring of new sources required by 40 CFR 60.49Da(p)(4)(i). This requirement was discussed with stakeholders prior to the filing of the Agency's proposal. Furthermore, if a situation should arise where the owner or operator of a source foresees monitor uptime of less than 75% for a quarter, they may make use of the emissions testing alternative for that quarter.

R09-10 Service List

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