#### BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO	)	R09-10
35 ILL. ADM. CODE 225	)	Rulemaking
CONTROL OR EMISSIONS FROM	)	_
LARGE COMBUSTION SOURCES	j	

### **NOTICE OF FILING**

TO:

John Therriault, Acting Clerk Illinois Pollution Control Board State of Illinois Center 100 W. Randolph St., Ste. 11-500 Chicago, Illinois

John Kim
Charles Matoesian
Dana Vetterhoffer
Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9276

David Rieser McGuireWoods LLP 77 W. Wacker Drive, Suite 4100 Chicago, Illinois 60601 drieser@mcguirewoods.com Tim Fox, Hearing Officer Illinois Pollution Control Board State of Illinois Center 100 W. Randolph St., Ste. 11-500 Chicago, Illinois

S. David Farris, Manager, Environmental Health and Safety City of Springfield Office of Public Utilities 201 East Lake Shore Drive Springfield, Illinois 62757 PLEASE TAKE NOTICE that I have today electronically filed with the Clerk of the Illinois Pollution Control Board, the Post-Hearing Comments of Ameren Companies, copies of which are herewith served upon you.

AMEREN ENERGY GENERATING COMPANY, AMERENENERGY RESOURCES GENERATING COMPANY, and ELECTRIC

ENERGY, INC,

One of Its Attorneys

by:

Dated: March 6, 2009

Renee Cipriano Kathleen C. Bassi Joshua R. More SCHIFF HARDIN, LLP 6600 Sears Tower 233 South Wacker Drive Chicago, Illinois 60606 312-258-5500

Fax: 312-258-2600

#### CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 6th day of March, 2009, I have served the attached Post-Hearing Comments of Ameren Companies, by electronic mail and by first class mail, postage affixed, upon the following persons:

John Therriault, Acting Clerk Illinois Pollution Control Board State of Illinois Center 100 W. Randolph St., Ste. 11-500 Chicago, Illinois

John Kim
Charles Matoesian
Dana Vetterhoffer
Illinois Environmental Protection Agency
Division of Legal Counsel
1021 North Grand Avenue, East
P.O. Box 19276
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David Rieser
McGuire Woods LLP
77 W. Wacker Drive, Suite 4100
Chicago, Illinois 60601
drieser@mcguirewoods.com

Tim Fox, Hearing Officer Illinois Pollution Control Board State of Illinois Center 100 W. Randolph St., Ste. 11-500 Chicago, Illinois

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Renee Cipriano Kathleen C. Bassi Joshua R. More SCHIFF HARDIN LLP 6600 Sears Tower Chicago, Illinois 60606 312-258-5500 One of Its Attorneys

#### BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

### POST-HEARING COMMENTS OF AMEREN COMPANIES

NOW COME Participants, AMEREN ENERGY GENERATING COMPANY,
AMERENENERGY RESOURCES GENERATING COMPANY, and ELECTRIC ENERGY,
INC. (collectively, "Ameren" or the "Company"), by and through their attorneys SCHIFF
HARDIN LLP, and offer these post-hearing comments. Ameren participated in the mercury
monitoring rulemaking hearing that took place on February 10, 2009 (the "Hearing"), wherein it
offered the testimony of Michael L. Menne, the Vice-President of the Environmental Services
Department for Ameren Services Company, and Gary M. Rygh, Senior Vice-President of
Barclays Capital Inc., in support of Ameren's proposed revision to add new subsection (e)(3) to
Section 225.233 (the Multi-Pollutant Standard or "MPS") of the Illinois mercury rule (the
"Mercury Rule"). Ameren's proposal is offered to the Board as a revision to the proposed
amendments to Part 225, Subparts A and B, initially filed before the Board on October 3, 2008,
and revised on February 19, 2009, by the Illinois Environmental Protection Agency (the

Also commenting at the Hearing in support of Ameren's proposed amendment were Mr. Terry Denison, an employee of the Jacksonville Regional Economic Development Corporation; Ms. Heather Hampton-Knodel, Executive Director of the Montgomery County Economic Development Corporation; Mr. Robert Lewis, a principal with Development Strategies, Inc.; and Mr. Alvis Martin, Field Director for the Illinois AFL-CIO.

<sup>&</sup>lt;sup>2</sup> Over the course of this rulemaking, the Agency submitted four erratas containing various revisions and corrections to its initial proposal. The revisions submitted February 19, 2009, compile all those revisions and corrections and is referred to hereafter as the "Revised Proposal."

"Agency" or "IEPA"). Ameren provided adequate support for the inclusion of its proposed revision to Section 225.233(e), and respectfully requests that the Board adopt the Revised Proposal along with Ameren's revision to Section 225.233(e).

Ameren generally supports the Agency's Revised Proposal. The Agency's Revised Proposal helps clarify how the Agency intends to administer the Mercury Rule and consequently assists companies such as Ameren in developing appropriate compliance strategies and implementing procedures. However, Ameren is including herein a number of comments regarding activated carbon injection ("ACI"), emission monitoring, and coal sampling as they relate to Ameren's compliance with the Mercury Rule. These comments are intended to clarify rather than oppose any of the Agency's Revised Proposal. The Agency's Revised Proposal, including Ameren's proposal, provides Ameren valuable flexibility as Ameren develops its compliance strategies.

### I. INTRODUCTION

Ameren came before the Board to propose a revision to the Agency's proposed amendments to the Mercury Rule to revise the sulfur dioxide ("SO<sub>2</sub>") and nitrogen oxide ("NOx") emission rates for particular calendar years under Section 225.233(e) of the MPS. Ameren's proposed revision to add new Section 225.233(e)(3) was admitted into the record by the Board at the Hearing as Exhibit 15. Prior to and concurrent with seeking this revision to the Agency's proposed amendments, Ameren sought similar relief before this Board in its Petition for Variance ("Petition"), docketed at PCB 09-21. A copy of the Petition is attached hereto as Attachment A, and Ameren respectfully requests that the Board incorporate the Petition into this docket, R09-10. Consistent with and pursuant to the Agency's Recommendation in the PCB 09-21 proceeding (see Agency Recommendation, at 10, PCB 09-21 (Nov. 17, 2008)), Ameren seeks

permanent relief in the form of a revision to Section 225.233(e) of the MPS. At no time prior to or during the Hearing has the Agency substantively or procedurally objected to Ameren's proposed revision to add Section 225.233(e)(3) to the Mercury Rule.

Due to the extreme financial conditions and the near collapse of capital markets within the U.S., compliance with the SO<sub>2</sub> emission rate of 0.33 lbs/mmBtu beginning in calendar year 2013 under Section 225.233(e)(2)(A) will cause significant economic hardship to Ameren. See Testimony of Michael L. Menne, at 7-11, R09-10 (Feb. 2, 2009) (admitted by the Board at Hearing as Exhibit 15), and Public Comments of Petitioner and Response to Public Comments. at 8-12, PCB 09-21 (Dec. 30, 2008). Accordingly, Ameren has proposed revisions to the MPS which would alleviate Ameren's immediate financial hardship by allowing it to temporarily defer - not cancel - hundreds of millions of dollars in capital expenditures until such time as confidence in the economy and capital markets improves. At the same time, Ameren, in conjunction with the Agency, has devised more stringent SO<sub>2</sub> and NOx emission rates than otherwise required under the MPS that will more than offset the impact of revising the 2013 and 2014 SO<sub>2</sub> emission rate. Significantly, the environmental impact of Ameren's proposed revision would result in a net environmental benefit to the state. See Testimony of Michael L. Menne, at 14-17, R09-10, Exhibit 15; see also Attachments B and C; and Agency Recommendation, at 10, PCB 09-21. And largely because the proposed revision changes only the compliance dates and emission rates for NOx and SO<sub>2</sub> as they apply to Ameren's MPS Group and because the technologies used to control NOx and SO<sub>2</sub> have already been found to be economically reasonable and technically feasible (see Opinion and Order of the Board, at 77-78, 37-38, R06-25 (Nov. 2, 2006)), the revision is both economically reasonable and technically feasible.

During the hearing, the Board specifically requested that Ameren provide additional

information and documentation in support of its requested revision to Section 255.233(e). Specifically, Dr. Anand Rao requested the following: (i) that Ameren provide support for including only revised emission rates in its proposed revision rather than also including the more stringent of revised percent reductions from the base rate as an alternative; (ii) that Ameren provide the projected percent emission reductions from compliance with the emission rates under Ameren's proposed revision; and (iii) that Ameren provide additional documentation of the calculated annual SO<sub>2</sub> and NOx tonnage emissions associated with the revised rates under Ameren's proposed revision. *See* Transcript of Board proceedings held in R09-10 (hereafter "Hearing Transcript") at p. 89, Il. 4-12, and pp. 90-91, Il. 22-24, 1-8, R09-10 (Feb. 19, 2009). Ameren responds to these requests herein and, in addition, reasserts the grounds for the Board's adoption of Ameren's proposed revision, as previously asserted by Ameren in the Testimony of Michael L. Menne (R09-10, Exhibit 15).

### II. AUTHORITY

The Board has the authority to adopt Ameren's proposal as an amendment to the Revised Proposal. The Agency is the original proponent of the proposed amendments to the Mercury Rule, which include changes to the MPS, and which is now before the Board and thus appropriately open to revision. In fact, the Agency specifically recommended that Ameren pursue permanent relief in this rulemaking, R09-10, as a revision to the Agency's proposed amendment to the Mercury Rule. *See* Agency Recommendation at 10, PCB 09-21.

In addition, pursuant to Section 28(a) of the Illinois Environmental Protection Act ("Act"), the Board has the authority, on its own accord, to revise proposed regulations in response to suggestions made at a hearing. Ameren provided the oral and written testimony of Michael L. Menne and others in support of its proposed revision to Section 225.233(e) at the

Hearing. The written testimony on behalf of Ameren was properly admitted by the Board as Exhibits 15 and 16 (see Hearing Transcript at p. 82, ll. 3-24). Accordingly, the Board has authority to incorporate Ameren's proposal as an amendment to the Revised Proposal. Further, at no point during the Hearing or Ameren's discussions with the Agency about Ameren's proposal did the Agency object to Ameren's request to revise Section 225.233(e).

It is worth noting that the Board has previously accepted revisions to a proposed rule that were provided in public comments or by participants during a rulemaking hearing. See, e.g., In the Matter of: Proposed New Clean Air Interstate Rules (CAIR) SO<sub>2</sub>, NOx Annual and NOx Ozone Season Trading Programs, 35 Ill. Adm. Code 225, Subparts A, C, D, E, and F, at 20-21, R06-26 (Aug. 23, 2007); and In the Matter of: Triennial Review of Sulfate and Total Dissolved Solids Water Quality Standards: Proposed Amendments to 35 Ill. Adm. Code 302.102(b)(6), 302.102(b)(8),302.102(b)(10), 302.208(g), 309.103(c)(3), 405.109(b)(2)(A), 409.109(b)(2)(B), 406.100(d); Repealer of 35 Ill. Adm. Code 406.203 and Part 407; and Proposed New 35 Ill. Adm. Code 302.208(h), R07-9 (Sept. 20, 2007). As with Ameren's proposed amendment to the Revised Proposal, revisions in the aforementioned proceedings were proposed subsequent to the initial filing of the proposed amendment to the regulation and were adopted by the Board.

#### III. AMEREN'S PROPOSED REVISION TO SECTION 225.233(e)

### A. Summary of Ameren's Proposed Revision to Section 225.233(e)

The MPS requires compliance with declining SO<sub>2</sub> and NOx emission rates over a finite period of time. With respect to SO<sub>2</sub> emission rates, Section 225.233(e) includes a requirement that eligible EGUs achieve a system-wide SO<sub>2</sub> emission rate of 0.33 lbs/mmBtu beginning on January 1, 2013, and continuing through December 31, 2014, and a final SO<sub>2</sub> emission rate of 0.25 lbs/mmBtu beginning on January 1, 2015, and continuing at that rate in each calendar year

thereafter. In lieu of complying with an SO<sub>2</sub> emission rate of 0.33 lbs/mmBtu during calendar years 2013 and 2014, Ameren's proposal includes revised SO<sub>2</sub> emission rates during that time period as well as additional and more stringent SO<sub>2</sub> and NOx rates than exist under the current MPS. Ameren's proposed revision requires as follows: (i) earlier seasonal and annual NOx emission rates in calendar years 2010 and 2011 of 0.11 lb/mmBtu and 0.14 lb/mmBtu, respectively; (ii) an earlier SO<sub>2</sub> emission rate of 0.50 lbs/mmBtu in calendar years 2010 through 2013; (iii) an SO<sub>2</sub> emission rate of 0.43 lbs/mmBtu in calendar year 2014; (iv) an SO<sub>2</sub> emission rate of 0.25 lbs/mmBtu in calendar years 2015 and 2016; and (iv) a more stringent SO<sub>2</sub> emission rate of 0.23 lbs/mmBtu beginning in 2017 and continuing thereafter.

The specific proposed regulatory language was both provided in the testimony of Michael L. Menne (R09-10, Exhibit 15), and included in the Agency's Revised Proposal. Accordingly, Ameren respectfully requests that the Board adopt its proposed revision to add Section 225.233(e)(3) as submitted.

### B. Sources/Entities Affected by Proposed Revision

The MPS is a rule of general applicability and thus was available to any of the Illinois coal-fired generation companies who chose to take advantage of its provisions. Section 225.233(b) of the MPS required owners of EGUs intending to comply with the MPS to notify IEPA of its election by no later than December 31, 2007. Ameren owns and operates seven coal-fired power stations comprised of twenty-one EGUs throughout the State of Illinois. *See* Ameren's Petition for Variance, Table 1, PCB 09-21, Oct. 1, 2008. These plants are the Coffeen Power Station located in Montgomery County, the Duck Creek Power Station located in Fulton County, the E.D. Edward Power Station located in Peoria County, the Joppa Power Station located in Massac County, the Hutsonville Power Station located in Crawford County, the

Meredosia Power Station located in Morgan County, and the Newton Power Station located in Jasper County. As required by the MPS, Ameren opted all twenty-one EGUs into the MPS on December 27, 2007, at which time those units became subject to the NOx and SO<sub>2</sub> provisions of the MPS. *See* Ameren's Petition for Variance, at Exhibit 2, Attachment A.

Ameren's proposal revises NOx and SO<sub>2</sub> emission rates for only Ameren's MPS Group. The proposed revision does not revise eligibility requirements for opting in the MPS and, to that extent, does not permit EGUs not already subject to the pending SO<sub>2</sub> and NOx emission rates under Section 225.233(e) to be subject to the revised emission rates under Ameren's proposal. Accordingly, Ameren's proposed revision applies only to the Ameren MPS Group and does not expand the scope of EGUs already affected by the MPS.

Ameren's present compliance strategies call for the installation of ACI systems throughout its generation fleet and the operation and/or installation of various other pollution control equipment, such as selective catalytic reduction ("SCR") systems and flue gas desulfurization ("FGD") systems. Such pollution control equipment is necessary to achieve specific NOx and SO<sub>2</sub> emission limitations and to comply with the mercury emission standard. Ameren's proposed revision imposes upon Ameren's MPS Group a different time schedule to meet NOx and SO<sub>2</sub> rates, in addition to requiring additional and earlier emission rate requirements than imposed under the current MPS. However, the proposed revision does not alleviate Ameren from needing to install pollution control equipment at its EGUs in order to comply with emission limits.

# C. Ameren's Proposed Emission Rates for NOx and SO<sub>2</sub> Present More Stringent Requirement Approach

Section 225.233(e) of the MPS requires eligible EGUs achieve the more stringent of either enumerated SO<sub>2</sub> and NOx emission rates or emission limits equivalent to a percentage of

the base emission rate for that pollutant ("percent of baseline"). The baseline period established by Section 225.130 is 2003-2005. At the time it opted in the MPS, Ameren provided the requisite demonstration indicating that the enumerated emission rates in the MPS were, in fact, the more stringent of the regulatory requirements. *See* Ameren's Petition for Variance, at Exhibit 2, Attachment A.

At the Hearing, Dr. Rao asked why Ameren's proposal to revise the MPS did not provide for the more stringent of the specified emission rates or percent of baseline. *See* Hearing Transcript, at p. 89, ll. 4-12. As previously noted, when the MPS was originally adopted as part of the Mercury Rule, it was a rule of general applicability. Use of the MPS was not limited to certain companies, and no companies subject to the Mercury Rule were precluded from opting in it. Since each system's generation and emission profile is different, the MPS had to express emission reduction requirements in terms as encompassing as possible. That is, the Agency needed to ensure that some level of reductions was achieved.<sup>3</sup> For example, under Section 225.233(e)(2)(B), an SO<sub>2</sub> emission rate of 0.25 lbs/mmBtu may be more stringent – or less stringent – for a system than 35% of the specified baseline. Expressing the limit as the more stringent of a rate or a percent of baseline ensured that any EGU that opted in the MPS would have to achieve a "maximum" level of reduction, as limited by Section 225.233(e).

Furthermore, a percent reduction from a designated baseline is not a uniform compliance requirement found throughout the Mercury Rule. The Combined Pollutant Standard of the Mercury Rule (35 Ill. Adm. Code Sections 225.291-225.299 of the Revised Proposal) ("CPS"),

 $<sup>^3</sup>$  In negotiating the MPS, Ameren and the Agency agreed to specific NOx and SO<sub>2</sub> system emission rates. The "percent of baseline" requirement was added by the Agency, presumably in anticipation of other EGU systems choosing the MPS compliance alternative. Ameren has always intended to comply with the enumerated rates, which represent the more stringent alternative for its system. In effect, the system rates function as a ceiling to ensure emission reductions.

applicable only to Midwest Generation, for example, does not express the emission limits for NOx and SO<sub>2</sub> as the more stringent of an emission rate or percent of baseline. Just as with the CPS, because Section 225.233(e)(3) applies only to Ameren, including a percent of baseline provides no further level of certainty that Ameren will achieve some "maximum" level of reduction. With respect to Ameren's proposal, adding a percent of baseline that corresponds to the emission rates proposed in Section 225.233(e)(3) does not increase the stringency of the proposal.<sup>4</sup> Therefore, including a percent of baseline as an alternative emission limit in Section 225.233(e)(3) is not necessary or valuable.

Nevertheless, for illustrative purposes and in response to Dr. Rao's questions at the Hearing, Ameren is attaching a table that provides information regarding percent reductions compared to the emission baseline. Consistent with that requirement of the MPS, the table addressing Ameren's proposed rates provides the following information: (i) the emission rates associated with the percent of baseline limits in the MPS – to demonstrate that the emission rates are the more stringent limit for Ameren under the current MPS; (ii) percent of baseline limits that correspond to the revised emission rates under Ameren's proposed revision (*i.e.*, Section 225.233(e)(3)), as requested by Dr. Rao; and (iii) the percent emission reductions from the baseline attributable to compliance with the NOx and SO<sub>2</sub> emission rates in Ameren's proposed revision, as requested by Dr. Rao. The table is attached hereto as Attachment D. Ameren notes that while the percent emission reductions from the baseline demonstrate the environmental benefit gained by Ameren's proposed revised emission rates, the original emission rates under the MPS were not based on achieving a particular percent reduction.

<sup>&</sup>lt;sup>4</sup> As demonstrated in Ameren's December 27, 2007, Notice of Intent to opt in the MPS (see Ameren's Petition for Variance, at Exhibit 2, Attachment A) and in Attachment D to these Post-Hearing Comments, the emission rates set forth in the MPS are more stringent than the percent of baseline limits.

# IV. JUSTIFICATION FOR AMEREN'S PROPOSED REVISION TO SECTION 225.233(e)

Pursuant to Sections 27 and 28 of the Act, the Board must consider a number of factors in ruling on a proposed amendment or revision to a regulation, including the economical reasonableness, technical feasibility, and environmental impact of the proposed amendment or revision. Under each of these factors, Ameren's proposal to add Section 255.233(e)(3) to the MPS is appropriate for adoption by the Board.

# A. Economic Reasonableness and Technical Feasibility of Ameren's Proposed Revision

The staggering decline of global economic conditions and the U.S. capital and credit markets has placed substantial economic hardship on companies like Ameren. Compliance with the MPS requires substantial long-term capital investments associated with the installation of pollution control equipment. The tightening of the credit markets as well as the downturn of future power price expectations negatively impacts Ameren's ability to attract the necessary long-term permanent financing. *See* Testimony of Michael L. Menne, at 8-9, R09-10, Exhibit 15; Testimony of Gary M. Rygh, at 3-5, R09-10, Exhibit 16.

The adoption of Ameren's proposed revision would permit Ameren to defer capital expenditures from 2009-2012 to 2013-2015. *See* Testimony of Michael L. Menne, at 3, R09-10, Exhibit 15. Ameren's proposed revision does not eliminate Ameren's regulatory obligation to comply with the MPS through the installation of pollution control equipment. As Ameren explained in its response to Dr. Rao's question at the Hearing, the deferral is associated with the cost of construction of FGDs necessary to achieve of the 0.33 lbs/mmBtu SO<sub>2</sub> emission rate in calendar years 2013 and 2014. *See* Hearing Transcript, at p. 92, ll. 2-23. Such deferrals will not impact Ameren's overall compliance with the Mercury Rule or its commitment to reduce

mercury emissions because Ameren will have mercury controls as required by the MPS regardless of the Board's decision to adopt Ameren's proposed revision. The cost savings associated with the deferment of FGDs is associated only with the control of SO<sub>2</sub> emissions. Accordingly, Ameren's proposed revision shifts significant capital expenditures associated with SO<sub>2</sub> control until the 2013-2015 timeframe and thus is economically reasonable for Ameren.<sup>5</sup>

The pollution control technologies required to meet the NOx and SO<sub>2</sub> emission limits under Ameren's proposed revision are no different in kind or scope than the technologies necessary to meeting the current emission limits under Section 225.233(e). These technologies have already been found to be both economically reasonable and technically feasible during the original mercury rulemaking. *See* Opinion and Order of the Board, at 77-78 and 37-38, R06-25. Under Ameren's proposed revision, beginning no later than January 1, 2010, Ameren will be required to meet NOx and SO<sub>2</sub> emission rates not currently mandated under the MPS and by January 1, 2017, Ameren must comply with a more stringent SO<sub>2</sub> emission rate than currently required under the MPS. To achieve compliance with the proposed revision, Ameren expects to operate existing pollution controls and install and operate new controls. This includes, but is not necessarily limited to, the upgrade of an existing scrubber at Ameren's Duck Creek Power Station with a wet FGD device, the installation of two FGDs at Coffeen Power Station (all of which are scheduled to go online by 2010), and the installation of additional five to six FGDs to comply with the SO<sub>2</sub> emission rates in calendar years 2014, 2015, and 2017.

<sup>&</sup>lt;sup>5</sup> In addition, the economic impact of Ameren's proposed revision on the state is reasonable and beneficial. Robert Lewis, a Principal with Development Strategies, Inc., commented at the Hearing regarding the significant and beneficial economic impact of Ameren's plants on the local economies of the counties wherein the plants are located. Ameren's proposed revision will provide Ameren with additional time to make more reasoned capital investment decisions and, thereby, potentially allow Ameren to avoid certain financial decisions in these economic conditions that could significantly and negatively impact the local economies in the state.

In sum, the Board has previously found the technology required to comply with the SO<sub>2</sub> and NOx emission rates under the MPS economically reasonable and technically feasible. Ameren's proposed revised emission rates will not require additional or different pollution control technology that would not otherwise have been installed under the current MPS. Ultimately, the revised SO<sub>2</sub> emission rates and dates for compliance will be even more economically reasonable for Ameren. Ameren will be able to defer significant capital expenditures until such time, as the financial and regulatory markets recover and become more certain to allow for substantial investment decisions by Ameren. *See* Testimony of Michael L. Menne, at 12-13, R09-10, Exhibit 15.

## B. Ameren's Proposed Revision Provides a Net Environmental Benefit to the State of Illinois

Ameren's proposed revision is justified based on the environmental benefit produced by Ameren's compliance with the emission rates required there under. Because Ameren has agreed to commit to earlier and more stringent SO<sub>2</sub> and NOx emission rates, the restructuring of the MPS compliance commitments will not result in environmental harm. Ameren has worked very hard together with the Agency to minimize any environmental impact from the revision. *See* Testimony of Michael L. Menne, at 14-16, R09-10, Exhibit 15. In fact, addressing the environmental impact of the revision was of utmost importance to both Ameren and the Agency.

The MPS addresses system-wide compliance, rather than unit based controls. The nominal revision to the MPS proposed by Ameren will have a negligible impact on regional air quality. The United States Environmental Protection Agency ("USEPA") has found that emissions from the coal-fired electric power generation sector as a whole tend to affect a large region of the country with relatively minimal impacts in the immediate vicinity of an individual plant. 70 Fed.Reg. 25162, 25245-49 (May 12, 2005). While reductions of the contributions of

many power plants to regional levels of ozone and PM2.5 would have a beneficial impact on nonattainment areas in general, the reductions from a single plant or even a single company's system of power plants in a single state generally have little measurable effect on downwind areas. 64 Fed.Reg. 28250, 28279 (May 25, 1999); 63 Fed.Reg. 57356, 57375 (October 27, 1998); 62 Fed.Reg. 60318, 60326 (November 7, 1997); *Air Pollution Control Dist. of Jefferson County, Ky. v. USEPA*, 739 F.2d 1071, 1093-94 (6<sup>th</sup> Cir. 1984). In other words, the difference in the downwind impact of Ameren's SO<sub>2</sub> emissions at a rate of 0.50 lbs/mmBtu and 0.43 lbs/mmBtu compared to 0.33 lbs/mmBtu for 2013 and 2014 will not have a significant impact on the air quality in downwind nonattainment areas. It takes regional reductions from the entire power plant sector, as opposed to reductions from a single plant or even system, to produce a significant improvement in air quality in the downwind nonattainment areas.

Furthermore, recent and pending submittals for Illinois attainment demonstration State Implementation Plan ("SIP") show that air quality in Illinois continues to improve. See prefiled testimony of the Agency In the Matter of: Nitrogen Oxides Emissions From Various Source Categories, Amendments to 35 Ill. Adm. Code Parts 211 and 217, R08-19 (Jan. 1, 2009).

Because Ameren's proposed revision results in earlier and additional reductions of SO<sub>2</sub> and NOx, it should not impede or alter this trend. In fact, the Agency previously confirmed that Ameren's revision would confer a "small net environmental benefit." See Agency Recommendation, at 10, PCB 09-21. Also, at no time during Ameren's discussion of the proposed revision with the Agency did the Agency express any concerns that the revision will impact the state's ability to achieve attainment or maintain attainment of the national ambient air quality standards.

To assess the overall environmental effect of Ameren's proposal, in conjunction with

Ameren's petition for a variance (R09-21), the Agency and Ameren evaluated projected mass emissions under the MPS and the proposal over an eleven-year period. From data derived by reports provided by Ameren, the Agency calculated an average heat input for the Ameren MPS Group from 2000 through 2007 and multiplied that constant value by SO<sub>2</sub> and NOx emission rates to determine the total tons of SO<sub>2</sub> and NOx for the given period (2010 through 2020). The total tonnage of SO<sub>2</sub> and NOx calculated for this time period assumed Ameren's compliance with the original MPS rates and then compared that amount with the total tonnage for SO<sub>2</sub> and NOx projected under the proposed amendment in order to determine if compliance with the proposed amendment afforded a net environmental benefit. This evaluation, performed in the fall of 2008, confirmed that the proposed amendment had a net environmental benefit of 842 tons. Attached hereto as Attachment B is a table depicting the annual projected SO<sub>2</sub> and NOx emissions and the environmental benefit of 842 tons.

In conjunction with its testimony submitted in this rulemaking, Ameren repeated the analysis performed by the Agency but used updated data to include calendar year 2008. The total projected baseline SO<sub>2</sub> and NOx emissions from the Ameren MPS Group under the MPS for the period of 2000 through 2008 were calculated at 868,138 tons.<sup>6</sup> The total projected SO<sub>2</sub> and NOx emissions for the same period, but under the proposed amendment, were calculated at 867,287 tons. Accordingly, the emission rates set forth in the proposed amendment will reduce the total SO<sub>2</sub> and NOx emissions for the period between 2010 and 2020 by 851 tons. A table depicting these annual projected SO<sub>2</sub> and NOx emissions and the environmental benefit of 851

<sup>&</sup>lt;sup>6</sup> This tonnage value represents both compliance with the MPS and the estimated emissions occurring between 2010 and 2012 for those emission rates not yet set by the MPS.

tons is attached hereto as Attachment C.<sup>7</sup> It is worth noting that while the calculations represent mass emissions out to only 2020, should the calculations have projected further into the future, the net environmental benefit would only have increased. This is because the proposed amendment commits Ameren to a more stringent SO<sub>2</sub> emission rate beginning in 2017 and continuing thereafter than otherwise required under Section 225.233(e) of the MPS.

Based on a projected heat input and again using the underlying assumptions from the original analysis, Ameren projects that the increase in its SO<sub>2</sub> emissions from the 0.33 lbs/mmBtu rate in the MPS to a rate of 0.50 lbs/mmBtu in 2013 and 0.43 lbs/mmBtu in 2014 would be approximately 29,000 tons in 2013 and 17,000 tons in 2014 if the proposed amendment is granted. However, as discussed above, under the proposed amendment Ameren's projected SO<sub>2</sub> emissions would have dropped from projected levels by approximately 25,500 tons in 2010-2012 and an additional 3,400 tons each year starting in 2017 when Ameren would be required to comply with the more stringent 0.23 lbs/mmBtu SO<sub>2</sub> emission rate thereafter. In addition, the proposed amendment will result in a reduction of approximately 7,600 tons of NOx in 2010-2011. The earlier and additional SO<sub>2</sub> and NOx reductions required by the proposed amendment will result in a net environmental benefit as compared to the MPS. This is consistent with the Agency's prior statement in the variance proceeding that the proposed revision would result in a net environmental benefit. See Agency Recommendation at 10, PCB 09-21.

In addition, cross-media impacts are not an issue in this matter.

<sup>&</sup>lt;sup>7</sup> This table is also being provided in response to Dr. Rao's request that Ameren breakdown the projected tons per year of SO<sub>2</sub> and NOx. *See* Hearing Transcript, at pp. 90-91, ll.s 22-24 and 1-8, R09-10, Feb. 19, 2009. Ameren notes that at the Hearing, Dr. Rao also requested that the annual projected SO<sub>2</sub> and NOx emissions be broken down on a plant-by-plant basis. Ameren is, however, providing annual projected emissions on only a system-wide basis in order to be consistent with the regulatory form of the MPS – which requires compliance with emission rates determined on a system-wide basis – and because the annual projected SO<sub>2</sub> and NOx emissions on a plant-by-plant basis is subject to more variability.

## V. MISCELANEOUS COMMENTS REGARDING AGENCY FOURTH ERATTA SHEET

During the course of the rulemaking, the Agency has made several various regulatory revisions which are beneficial to the implementation of and compliance with the Mercury Rule. Specifically, the Agency has proposed alternative monitoring systems that allow sources such as Ameren to conduct periodic stack testing rather than install mercury CEMS to comply with monitoring requirements. In addition, and in discussions with Ameren, the Agency has clarified that for those EGUs that have a gross MW capacity of less than 90 MW, the coal sampling and monitoring requirements are deferred until January 1, 2013, when the substantive ACI installation requirements are triggered. Ameren requests that the Board formally recognize this regulatory interpretation. Lastly, the Agency has indicated that it would be receptive to considering on a case-by-case basis an alternative coal sampling protocol upon proper demonstration by the applying source. Ameren believes that it is imperative that the Agency retain the authority and ability to exercise such discretion in appropriate circumstances.

Lastly, the Agency has revised portions of the Mercury Rule to eliminate a temperature differential requirement for EGU's with cold-side ESPs that inject carbon. Ameren proposes that the corresponding MPS monitoring requirement (Section 225.233(c)(5)(B) – Control Technology Requirement for Emissions of Mercury) should be similarly construed and that the flue gas temperature and gas flow rate conditions set forth in that provision apply only to units that inject carbon upstream of a hot-side ESP.

#### VI. CONCLUSION

Ameren respectfully requests that the Board adopt Ameren's proposal by adding Section 225.233(e)(3) to the MPS. In its Recommendation in PCB 09-21, the Agency recommended that Ameren pursue a revision to the Mercury Rule in this proceeding so as to make permanent

certain conditions agreed to in the variance proceeding along with the requested temporary relief.

Ameren's proposed revision is economically reasonable and technically feasible and will help to alleviate the substantial economic hardship facing Ameren in the midst of an uncertain regulatory and financial climate.

Moreover, compliance with the additional and more stringent SO<sub>2</sub> and NOx emission rates under Ameren's proposal will ultimately create a net environmental benefit for the state. The Agency has previously recognized the environmental benefit of Ameren's proposal and Ameren is aware of no objection by the Agency or the public in its adoption. Ameren respectfully asks this Board to consider the current state of affairs and Ameren's significant efforts in providing a regulatory amendment that addresses its concerns as well as provides a real benefit to the state.

Respectfully submitted,

AMEREN ENERGY GENERATING COMPANY, AMERENENERGY RESOURCES GENERATING COMPANY, and ELECTRIC ENERGY, INC.,

by:

One of Its Attorneys

Dated: March 6, 2009

Renee Cipriano Kathleen C. Bassi Joshua R. More SCHIFF HARDIN, LLP 6600 Sears Tower 233 South Wacker Drive Chicago, Illinois 60606 312-258-5500

### ATTACHMENT A

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\* \* \* \* \* PCB 2009-021 \* \* \* \* \*

#### BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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### **PETITION FOR VARIANCE**

NOW COME AMEREN ENERGY GENERATING COMPANY, AMERENENERGY RESOURCES GENERATING COMPANY, and ELECTRIC ENERGY, INC. (collectively, "Ameren" or "Petitioners"), by and through their attorneys, SCHIFF HARDIN, LLP, and, pursuant to Sections 35 and 37 of the Environmental Protection Act, 415 ILCS 5/35, 37, ("Act") and 35 Ill.Adm.Code Part 104, Subpart B, request that the Board grant Petitioners a variance from a provision of the Illinois Multi-Pollutant Standard ("MPS"), 35 Ill.Adm.Code § 225.233, for the period beginning January 1, 2013, through December 31, 2014. Despite the Board's usual practice, the provisions of the regulations from which Petitioners here seek relief require that Ameren seek this relief on a system-wide basis, rather than on a power station-by-power station basis. Ameren will suffer arbitrary or unreasonable hardship if the Board does not grant this requested variance.

<sup>&</sup>lt;sup>1</sup> Hereinafter, citations to the Board's regulations will be by section number only.

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Specifically, Ameren seeks a variance from only one of many components of the MPS. Section 225.233(e)(2)(A) establishes an emissions rate for sulfur dioxide ("SO<sub>2</sub>") that is, in reality, an interim or mid-point rate of 0.33 lb/mmBtu<sup>2</sup> in 2013 and 2014, with the ultimate or final emission rate of 0.25 lb/mmBtu required for 2015 and thereafter.

Ameren has sought several variances in the last 10 years, but they all concerned water pollution control issues.<sup>3</sup> Ameren has never sought a variance from Section 225.233(e)(2)(A). In support of its petition, Petitioners state as follows:

### A. AMEREN GENERATES ELECTRICITY IN ILLINOIS AT SEVEN COAL-FIRED POWER STATIONS.

1. Ameren owns and operates seven coal-fired power plants for the generation of electricity in several locations in downstate Illinois. These plants are the Coffeen Power Station located in Montgomery County, the Duck Creek Power Station located in Fulton County, the E.D. Edwards Power Station located in Peoria County, Joppa Power Station located in Massac County, the Hutsonville Power Station located in Crawford County, the Meredosia Power Station located in Morgan County, and the Newton Power Station located in Jasper County. See Ex. 1, a map depicting the power stations' locations. All of these counties are designated attainment for

<sup>&</sup>lt;sup>2</sup> Section 225.233(e)(2)(A) provides that MPS sources must comply with an SO<sub>2</sub> emission rate of 0.33 pounds per million British thermal units ("lb/mmBtu") or 44% of its baseline, whichever is more stringent. In Ameren's case, the 0.33 lb/mmBtu is the more stringent requirement and that is the rate that is discussed in this Petition.

<sup>&</sup>lt;sup>3</sup> The Board granted Ameren variances under the following dockets: PCB 99-21 (December 17, 1998) (Duck Creek Power Station, from the water quality standards for boron at Section 302.208), and PCB 01-16 (November 16, 2000) (Grant Tower Power Station from the total boron limits and water quality standards of Sections 302.208 and 304.105). In 1999 and 2007, Ameren has also received two provisional variances from the Board, also related to water pollution control issues.

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all pollutants. See USEPA's Green Book (list of national attainment and nonattainment designations) at < <a href="http://www.epa.gov/oar/oaqps/greenbk/">http://www.epa.gov/oar/oaqps/greenbk/</a>>.

- 2. The Agency maintains a comprehensive, state-wide network of air quality monitoring stations. Exhibit 1 is a copy of the map included in the Agency's *Illinois Annual Air Quality Report 2006* at page 34 providing the locations of the air quality monitoring stations.

  Ameren has superimposed the locations of its power stations on this map to illustrate their positions relative to the monitoring stations.
- 3. The principal emissions at Ameren's coal-fired power plants are SO<sub>2</sub>, nitrogen oxides ("NOx"), and particulate matter ("PM"). SO<sub>2</sub> is currently generally controlled through the use of low sulfur coal or blending low sulfur coal with Illinois coal containing higher levels of sulfur. There is an existing scrubber (flue gas desulfurization - "FGD") at Duck Creek that is being upgraded and replaced with a wet FGD. This retrofit will be in service no later than 2010. Additionally, the Agency has issued construction permits for the Coffeen Power Station for the installation of two FGDs, also scheduled to go online by 2010. FGDs at other stations are expected to be online by 2015 to comply with the 0.25 lb/mmBtu emission rate but will be staggered in time. So these other FGDs will actually go online at various times between 2010 and 2015 and will significantly improve Ameren's system-wide SO<sub>2</sub> emission rate prior to and during the pendency of the requested variance. NOx emissions are generally controlled by various combinations of low sulfur coal, low NOx burners, over-fire air, and selective catalytic reduction systems ("SCRs"). PM is generally controlled through the use of flue gas conditioning and electrostatic precipitators. The addresses of the seven power stations, their Agency identification numbers, permit application numbers, and other pertinent information regarding

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their output, pollution control equipment, and SO<sub>2</sub> emissions are provided in Table 1, attached to this Petition. Ameren employs approximately 985 persons at these seven power stations.

- B. AMEREN SOUGHT THE MPS IN 2006 SPECIFICALLY TO COORDINATE EMISSION CONTROL DECISIONS IN ACCORDANCE WITH A REASONABLE VIEW OF FUTURE REGULATORY REQUIREMENTS.
- 4. In May 2005, the U.S. Environmental Protection Agency ("USEPA") promulgated regulations requiring reductions of emissions of SO<sub>2</sub> and NOx in the Clean Air Interstate Rule ("CAIR") to address ozone and fine particulate ("PM2.5") nonattainment areas, 70 Fed.Reg. 25162 (May 12, 2005), and of mercury emissions in the Clean Air Mercury Rule ("CAMR"), 70 Fed.Reg. 28606 (May 18, 2005). The CAIR included most of the eastern United States as well as several states west of the Mississippi River, while the CAMR applied to the lower 48 states. Both of these rules applied to coal-fired electric generating units ("EGUs") serving generators with nameplate capacities greater than 25 megawatts ("MW"). Both of these programs established caps on emissions of certain pollutants for each affected state and provided that the states could choose to participate in USEPA-administered emissions trading programs if their state programs met certain minimum requirements. Ameren's coal-fired EGUs are the type of units that were impacted by these federal programs.
- 5. By January 2006, the Illinois Environmental Protection Agency ("Agency") had commenced outreach regarding its intended regulatory proposals to satisfy these federal requirements with the Illinois EGUs and other interested parties. The Board subsequently adopted the Illinois mercury rule at R06-25 (December 21, 2006) and the Illinois CAIR at R06-26 (August 23, 2007) in substantively the same form as initially proposed, with one major

<sup>&</sup>lt;sup>4</sup> The CAIR applied more generally to fossil fuel-fired EGUs, while the CAMR was limited in applicability to just coal-fired EGUs.

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exception in each rule: the addition of the MPS to the Illinois mercury rule and of the Combined Pollutant Standard to the Illinois CAIR. The rules that the Board adopted differ significantly from the federal rules in two very important ways. First, the Illinois mercury rule is a command-and-control approach, requiring a 90% reduction from input mercury from affected coal-fired power plants, <sup>5</sup> and eschews participation in the federal trading program. Second, although Illinois remained in the NOx and SO<sub>2</sub> trading programs administered by USEPA, the Illinois CAIR includes a Clean Air Set-Aside ("CASA") of 25% of the statewide emissions cap. The CASA allowances were not removed from the overall trading pool but were intended to incentivize projects that would improve efficiency, result in early reductions, or have other environmental benefits. The effect of the CASA was to make the CAIR requirements in Illinois more stringent than the federal rule and most other states' CAIRs, because the CASA allowances were removed from the pool of allowances for Illinois EGUs. Illinois EGUs were eligible under only some of the various CASA incentive programs, limiting the opportunity for the EGUs to regain allowances from the CASA.

6. In evaluating its environmental compliance strategy and the technology available for mercury compliance and for monitoring that compliance in 2006 when the Agency was conducting its outreach and the rules were pending before the Board, Ameren determined that it made the most sense for it to attempt to partner with the Agency on a more comprehensive approach to the Illinois mercury rule that would address mercury in coordination with other known air emission regulatory requirements, notably the CAIR, including use of potential cobenefit emission control technologies that reduce not only mercury but also NOx and/or SO<sub>2</sub>. While recognizing and accepting that the injection of halogenated powdered activated carbon can

<sup>&</sup>lt;sup>5</sup> That is, those with nameplate capacities greater than 25 MWe.

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reduce mercury emissions, even in light of the Agency's claims that injection of halogenated sorbents would sufficiently reduce mercury, Ameren did not believe that considerably high levels of mercury removal at all units could be achieved in the short run or that the reductions could be measured sufficiently accurately to assure compliance with the mercury emission limitations. Noncompliance – or even the possibility of noncompliance – was not an option.

- 7. Even though the Illinois CAIR program opted in to the federal emissions trading programs, Ameren determined that compliance with the Illinois CAIR would require the installation of various combinations of pollution control equipment. The pollution control equipment necessary to reduce NOx emissions, *i.e.*, SCRs and selective non-catalytic reduction equipment ("SNCRs"), and SO<sub>2</sub> emissions, *i.e.* FGDs, for the CAIR, as well as baghouses for PM2.5 control, also enhance a source's ability to reduce mercury and, therefore, enhance Ameren's ability to ensure compliance with Illinois' very strict mercury emissions limitations. Since these technologies were necessary for Ameren to comply with both the CAIR and the Illinois mercury rule, Ameren deemed it essential for it to be able to coordinate the two regulatory requirements. However, the equipment could not be installed by July 1, 2009, the compliance date for the mercury rule.
- 8. For these reasons, then, Ameren approached the Agency with a proposal that was reflected eventually in the MPS adopted by the Board as part of the Illinois mercury rule at Section 225.233.<sup>6</sup> Ameren, indeed, opted in to the MPS on December 27, 2007, see Ex. 2, and

<sup>&</sup>lt;sup>6</sup> The MPS is a rule of general applicability, available to any of the Illinois coal-fired generation companies who chose to take advantage of its provisions. Nevertheless, it was the result of negotiations between Ameren and the Agency and was born from Ameren's analysis of foreseeable regulatory requirements, the interrelationship and need for coordination between mercury, NOx, and SO<sub>2</sub> control planning, and its resulting business plan.

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became subject to the NOx and SO<sub>2</sub> provisions of the MPS at that time.<sup>7</sup>

- 9. The MPS requires Ameren to install and operate sorbent injection systems or SCR/FGD systems but extends the deadline for Ameren to demonstrate compliance with the 90% mercury reduction requirement until 2015. The MPS also establishes strict, declining emissions limitations for NOx and SO<sub>2</sub> over a period of time, including a system-wide SO<sub>2</sub> limit of 0.33 lb/mmBtu in 2013, declining to a rate of 0.25 lb/mmBtu in 2015, and precludes trading of any excess NOx and SO<sub>2</sub> allowances that result of the installation and operation of the pollution control equipment necessary for it to meet the applicable emissions limitations. That is, because the MPS restricts the emissions trading otherwise available under the CAIR, Ameren must install and operate pollution control equipment, as discussed above, and cannot rely on allowance purchases as a planning or timing tool.
- 10. In order to meet the emission reduction objectives of the MPS, Ameren must plan for and finance the purchase the necessary pollution control equipment. Since the MPS requires compliance with specified emissions rates, Ameren does not have the flexibility available to non-MPS companies to delay this equipment planning and financing through purchases of allowances to satisfy its compliance obligations until the financial, labor, and equipment markets are more advantageous or Ameren's own financial position is better. The procurement process for these significant pollution control devices is approximately four years. Ex. 3, p. 5. For example, in order for Ameren to comply with a significantly reduced SO<sub>2</sub> emission limit in 2013, it must

<sup>&</sup>lt;sup>7</sup> Ameren's MPS Group included units owned or operated by Ameren Energy Generating Company, AmerenEnergy Resources Generating Company, and Electric Energy, Inc., all subsidiaries of Ameren Corporation. The units of all of these subsidiaries of Ameren Corporation were required to be included in a single MPS group by Section 225.233(a)(2). At the seven power plants owned and operated by Ameren are 21 individual EGUs that comprise the MPS Group.

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commence its procurement process in mid-2008. The initial phases of Ameren's procurement process involve internal development of the project, including conceptual engineering, necessary for obtaining management approval to proceed. Once management has approved the project, Ameren's procurement process extends to agreements that involve securing funding and contracting with consultants who will help with the permitting process and will do the detailed engineering. These steps can take more than two years. The permitting process must be completed and a construction permit issued before any actual construction can commence. Ameren estimates six to nine months for the permitting process alone. The estimated time for construction, tie-in, and commissioning, startup, and testing of an FGD is approximately three years. From concept to online operation, the period is approximately four and one-half years.

- C. THE VACATURS OF THE CAMR AND PARTICULARLY THE CAIR HAVE CREATED CONFUSION, UPHEAVAL, AND UNCERTAINTY SUCH THAT WHAT APPEARED REASONABLE IN 2006 IS NO LONGER SO.
- 11. In February 2008, the U.S. Court of Appeals for the District of Columbia ("D.C. Circuit") vacated the CAMR. See State of New Jersey v. Environmental Protection Agency, 517 F.3d 574 (D.C. Cir. 2008). The court determined that USEPA had erred in the methodology it had used to remove EGUs from the list of sources subject to the maximum available control technology (MACT) requirements of the Clean Air Act. Several parties filed for rehearing of this decision; however, these petitions were denied in May 2008. New Jersey, Docket No. 05-1097 (consolidated), Orders (May 20, 2008). The deadline for filing petitions for certiorari with the U.S. Supreme Court is October 17, 2008. See <a href="http://origin.www.supremecourtus.gov/docket/08a117.htm">http://origin.www.supremecourtus.gov/docket/08a117.htm</a>.
- 12. On July 11, 2008, the D.C. Circuit vacated the federal CAIR. See State of North Carolina v. Environmental Protection Agency, --- F.3d ---, 2008 WL 2698180 (C.A.D.C. 2008).

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The court found that the CAIR contained so many flaws that it was not possible for the court to merely remand the rule. North Carolina, 2008 WL 2698180, pp. \*1, \*58-\*59. In its decision, the court found that USEPA does not have the authority to terminate or alter Title IV<sup>8</sup> allowances. North Carolina, 2008 WL 2698180, p. \*45. Under Title IV, USEPA issues allowances pursuant to the Acid Rain Program. Acid Rain sources, such as all of Ameren's EGUs, are required to surrender an allowance for each ton of SO<sub>2</sub> it emits. The CAIR SO<sub>2</sub> program was piggy-backed onto the Acid Rain Program, and sources were required to surrender Acid Rain allowances at a rate greater than required by the Acid Rain Program. The court likewise found errors in USEPA's methodology for determining how states' emissions affected downwind nonattainment and maintenance areas and the state emissions caps. The "relief" that the court granted with respect to CAIR NOx exceeded that requested by any party. The vacatur of the entire CAIR has resulted in tremendous upheaval and uncertainty for both states and the regulated community. Petitions for rehearing of the CAIR vacatur were due August 25, 2008, but USEPA has petitioned for an extension of that deadline; the D.C. Circuit granted the motion for extension on August 15, 2008. Ex. 4. USEPA and three intervenors filed petitions for rehearing on September 24, 2008.9

13. The vacatur of the federal CAIR means that the Illinois CAIR at 35 Ill.Adm.Code 225.Subparts C, D, and E is invalid. The Illinois CAIR had as its purpose the control of SO<sub>2</sub> and NOx emissions from EGUs through implementation of and participation in the federal CAIR trading programs. See 35 Ill.Adm.Code §§ 225.300, 225.400, and 225.500. The NOx Budget

<sup>&</sup>lt;sup>8</sup> Title IV of the Clean Air Act: 42 U.S.C. §§ 7651-76510.

<sup>&</sup>lt;sup>9</sup> Ameren does not know, as of the date of filing, whether any other parties filed petitions for rehearing.

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Trading Program, codified in Illinois at 35 Ill.Adm.Code 217.Subpart W, remains intact, *North Carolina*, 2008 WL 2698180, pp. \*59-\*60, as neither the Board nor the Agency has taken any action, to Ameren's knowledge, to suspend or repeal the provisions of Subpart W. However, the loss of the Illinois CAIR also means the loss of the CASA.

- 14. Ameren expected to qualify under the CASA for a number of allowances that would have helped to offset the cost of the control equipment that Ameren is installing. These projects included FGDs sufficient to scrub nine or 10 units and SCRs and SNCRs on selected units. All of these projects would have been eligible for allowances from the CASA in the early adopter category pursuant to Section 225.460(f) and would have been eligible for allowances for a period of 10 years pursuant to Section 225.470(d)(2). These allowances could have been used to defray compliance costs or capital expenditures. <sup>10</sup>
- 15. Ameren is currently evaluating the impact of these decisions on its environmental compliance strategy, including its estimated environmental capital costs. The purpose of this evaluation of multiple power plant locations and compliance strategies within Ameren's electric generation fleet is to identify the optimal locations for capital investment consistent with the goal of making smart capital investment decisions while maintaining operational flexibility within a competitive energy market. Clearly, the climate has changed since 2006. At this point in time, Ameren is unable to predict the outcome of the legal proceedings following on the CAMR and CAIR vacaturs. The vacaturs have also elevated the speculation that Congress may directly address these trading programs, *see*, *e.g.*, Ex. 3, pp. 3-4; 5; 6, though the timing is not at all

<sup>&</sup>lt;sup>10</sup> Had Ameren received the maximum number of allowances available, it could have realized as much as \$3.8 million per year through 2014 and \$3.2 million per year for the remaining years in the 10-year period for which they would have been eligible, assuming a value of \$2,500/NOx allowance.

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certain, particularly given the fact that this is an election year, Exs. 26, 27, 28. States are in turmoil, and the National Association of Clean Air Agencies is apparently drafting a model rule for states to use to address the issue. Ex. 7. Finally, the State of North Carolina has asked the D.C. Circuit for expedited briefing on its appeal of USEPA's denial of its Clean Air Act Section 126 petition to address interstate pollution transport, 42 U.S.C. § 7426(b), since USEPA's denial was based in large measure on the CAIR program. The prospect that USEPA could become obligated to issue Section 126 rules for the reduction of NOx and SO<sub>2</sub> in the near future looms.

- vacatur of the CAIR on its ability to demonstrate attainment of the ozone and PM2.5 national ambient air quality standards ("NAAQS") and its state implementation plan ("SIP") addressing visibility or haze. Like most states in the CAIR region, the Agency relied or planned to rely on the CAIR for a large part of its attainment demonstration and visibility SIPs. Illinois has submitted to USEPA its visibility SIP and its ozone attainment demonstration for the Metro-East ozone nonattainment area, but their validity, particularly that of the visibility SIP, is now in question. The Agency has yet to submit its ozone attainment demonstration for the Chicago nonattainment area or its PM2.5 attainment demonstrations for both nonattainment areas. The Agency was relying on the CAIR particularly for the PM2.5 attainment demonstrations. Ameren understands that the Agency, through the Lake Michigan Air Directors Consortium (LADCO) is planning modeling that excludes CAIR reductions. However, it is not yet clear what the results are or how the Agency will be able to implement the results.
- 17. Adding to the levels of uncertainty surrounding the ozone and PM2.5 NAAQS, USEPA lowered the ozone NAAQS to 0.750 ppm (8-hour standard) in March 2008. 73 Fed.Reg. 16436 (March 27, 2008). Illinois must submit attainment/nonattainment designations by

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March 12, 2009. 42 U.S.C. § 7407(d)(1)(A); 73 Fed.Reg. at 16503. The attainment date for the new ozone standard depends upon the classification of nonattainment and must conform with the schedules set forth in Section 181 of the Clean Air Act. ATA v. Whitman, 531 U.S. 457 (2001). This will require, at the least, federal guidance to be published in the Federal Register. Illinois' attainment demonstration is due by March 12, 2011. 42 U.S.C. § 7410(a)(1); 73 Fed.Reg. at 16503. Ameren is not aware of any timeframes for this guidance or federal rulemaking. However, given the most recent ambient ozone levels in Illinois readily available to the public, see Ex. 8, Ameren can speculate that the current ozone nonattainment areas may again be classified as marginal or moderate nonattainment, which makes the attainment date three or six years after designation, or 2013 or 2016, depending upon the classification. 42 U.S.C. § 7511(a)(1). Potentially, Illinois will require additional precursor reductions to meet this new standard, but it is not at all clear what those additional requirements will be, when they will be required, and whom they will affect. Moreover, some states have formally requested that USEPA enter into a dialogue with them regarding a new multi-state approach to address transport of criteria pollutants or precursors. See Ex. 9. It is unclear what that dialogue, if it occurs, will require of companies such as Ameren; given the pollutants identified in Ex. 9, however, it is certain to include companies such as Ameren.

18. USEPA also revised the 24-hour standard for PM2.5 as the Board was in the process of adopting of the Illinois mercury rule. 71 Fed.Reg. 61144 (October 17, 2006).

According to an August 18, 2008, letter to Governor Blagojevich, USEPA intends to promulgate designations by December 18, 2008. Ex. 10. Attainment demonstrations are due by October 17, 2009. 42 U.S.C. § 7410(a)(1). The Agency has proposed that the PM2.5 nonattainment areas remain the same as they are under the "old" PM2.5 NAAQS. Ex. 11, p. 1. Ameren is unaware of

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the Agency's plans regarding measures that might be necessary for it to make that attainment demonstration. Of additional concern, however, USEPA has requested further information from the Agency regarding operations at Ameren's Joppa Power Station Power Station, as the Paducah-Mayfield Combined Statistical Area contains a monitor with a design value of 36 µg/m³. Ex. 11, pp. 11-16. This Combined Statistical Area includes Massac County where Ameren's Joppa Power Station Power Station is located. If USEPA were to proceed with this designation, this would be an entirely new nonattainment area for Illinois. Ameren cannot begin to predict how the Agency would address nonattainment in Massac County.

- 19. Ameren believes that Illinois' mercury rule is generally not affected by the vacatur of the CAMR, because Illinois' rule did not rely on any of the provisions of the CAMR for its authority. Rather, the Board adopted a mercury rule that forced the Agency to have to take additional steps to demonstrate to USEPA that it was sufficient to meet the state's mass mercury emissions cap. The monitoring provisions are affected, and Ameren believes that there are a couple elements of the MPS that are affected, including the allowance surrender requirements; otherwise, though, the Illinois mercury rule is intact.
- 20. Prior to the vacatur of the CAIR, Ameren had estimated that its capitals costs of compliance with the Illinois CAIR, the Illinois mercury rule (including the MPS), Illinois' requirements to address visibility, and Illinois' requirements to address attainment of both the ozone and PM2.5 NAAQS, based on current technology, would be \$500 million in 2008, \$1.595-2.060 billion in 2009-2012, \$135-190 million in 2013-2017, for a total of \$2.230-2.750 billion by 2017. Ameren is reviewing the timing and ultimate amount of the capital costs, given the

<sup>&</sup>lt;sup>11</sup> The "new" 24-hour PM2.5 NAAQS is 35  $\mu$ g/m³. 71 Fed.Reg. 61144 (October 17, 2006).

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vacaturs. These estimates could change depending upon additional federal or state requirements, the ultimate outcome of any appeals relative to the CAIR and CAMR vacatur, new technology, or variations in costs of material or labor, among other reasons.

- 21. The financial ramifications of the vacaturs of the CAIR and CAMR have been exacerbated in recent weeks by the tumultuous events on Wall Street. The implications of the necessity of the federal government to step in and provide unprecedented support to key financial institutions and the economy, as the Board is aware, reverberate throughout all business sectors. Although it was becoming clearly more difficult to obtain financing of very large projects such as those described above prior to the events of mid-September, uncertainty surrounding financing has increased substantially. Ameren is convinced that it must proceed cautiously with large capital projects in order to maintain financial flexibility and the integrity of the generation system essential to preserving Illinois' economy and, hence, Illinois jobs.
- D. SINCE ADOPTION OF THE MPS IN 2006, IT HAS BECOME INCREASINGLY LIKELY THAT THERE WILL BE SOME FORM FEDERAL AND PERHAPS REGIONAL REGULATION OF GREENHOUSE GASES, CREATING ADDITIONAL UNCERTAINTY WITH HUGE COMPLIANCE AND FINANCIAL IMPLICATIONS.
- 22. In April 2007, the U.S. Supreme Court determined that USEPA has the authority to regulate carbon dioxide ("CO<sub>2</sub>") and other greenhouse gases ("GHGs") from automobiles as "air pollutants" under the Clean Air Act. *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007). The Supreme Court remanded the case to USEPA, which must conduct a rulemaking process to determine whether GHGs contribute to climate change "which may reasonably be anticipated to endanger public health or welfare." *Massachusetts*, 127 S.Ct. at 1460, 1462. In July 2008, USEPA issued an advance notice of proposed rulemaking ("ANPR") in response to the Supreme Court's directive. 73 Fed.Reg. 44354 (July 30, 2008). The ANPR

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addresses GHG controls not only on mobile sources, the subject of *Massachusetts*, but also on stationary sources. In the preface to the ANPR, USEPA expressed a concern that the Clean Air Act is ill-suited for this purpose and would result in a convoluted and ineffective set of regulations. Nevertheless, there is great pressure on and by Congress to address GHGs and for USEPA to do something to regulate GHGs. New regulations resulting from the rulemaking process are not expected this year, but USEPA could begin to regulate GHGs at some point in the future. Likewise, there is a general expectation that Congress will act in some fashion sooner rather than later, and both Presidential candidates have pledged to enact a GHG regulatory program. If Congress fails to act, the Supreme Court in *Massachusetts* says that USEPA must act.

when they will be regulated to address climate change. Most electric generation companies today, Ameren included, do not doubt that shortly there will be some form of climate change-related regulation to which they will be subject. The questions for them as they diligently plan for the future are how they will be regulated and when that will occur. The cost of compliance with a GHG regulatory program will likely dwarf every environmental control requirement to date. Merchant plant companies like Ameren's Illinois plants face even greater uncertainty because they cannot assume they will recover their GHG compliance costs through rates paid by users; rather, they must remain competitive in the market. Thus, GHG regulation will force major decisions that were neither necessary nor anticipated even two years ago, and those decisions could change the entire face of the electric generation industry. Ameren has a responsibility and a duty to its customers, employees and stockholders to address these changes in the most efficient manner possible. This means that Ameren must, first of all, comply with

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whatever requirements become applicable. That compliance, however, must reflect the most cost-effective approach achievable while maintaining the levels of generation necessary to support the grid.

- 24. Legislation regarding GHGs and climate change are subject to active consideration in the U.S. Congress. In January 2008, there were 12 pieces of climate change legislation pending in Congress. See Ex. 12, second page; see also Exs. 13 and 14. The scope of these bills run the gamut of limiting equivalents of metric tons of carbon dioxide ("CO<sub>2e</sub>") emitted from approximately 6,000 million metric tons ("mmt") CO<sub>2e</sub> to approximately 2,000 mmt CO<sub>2e</sub> in 2050. Exs. 12, 13. Most of them either provide or have merely as a goal some recognition or credit for early GHG reductions or their equivalents that the anticipated regulated community implement before 2012. The Lieberman-Warner Bill seems to have received the greatest amount of attention and analysis. A very brief overview of the Lieberman-Warner Bill is included on the third page of Ex. 12, and a more complete review of the bill by the Energy Information Association, a U.S. government agency, is included in Ex. 15. Another good summary of the Lieberman-Warner Bill is included in Ex. 16.
- 25. The U.S. Senate is currently considering legislation proposed by Senators Lieberman, Warner, and Boxer, described as a combination of the Lieberman-Warner Bill, Senator Boxer's proposal, and several others, Ex. 17, p. 2, that would set up a cap and trade program for GHGs. See Ex. 18 for a schematic drawing of the provisions of the Lieberman-Warner Bill amended by the Boxer Bill. That legislation was withdrawn by the Senate

<sup>&</sup>lt;sup>12</sup> Obviously, there is a big difference between a definite provision for pre-2012 credit and a mere goal to provide credit.

<sup>&</sup>lt;sup>13</sup> Often referred to in publications as "L-W."

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leadership earlier this year after failure to achieve closure, and many speculate that further action on climate change legislation in the Senate is not likely this calendar year. Ex. 17, p. 1. However, it is notable that in 2008 for the first time GHG legislation passed through subcommittee and was voted out of the relevant committee to become a "live" bill capable of floor action. In the U.S. House of Representatives, the Energy and Commerce Committee is working on a cap and trade form of climate change legislation, and individual Members of Congress have proposed cap and trade legislation. It is uncertain whether any of those proposals will be taken up this year. Exs. 17, p. 3; 29.

- 26. In addition, President Bush has supported climate initiatives that would focus on technology development to eliminate growth in GHGs by 2025. In July 2008, the Group of Eight (G8) countries, which include the United States, issued a statement that they had agreed to consider and adopt a GHG reduction target of 50% by 2050. This agreement is a significant departure from prior Bush Administration policy.
- 27. The outcome of any of these initiatives cannot be determined at this time.

  However, both Presidential candidates McCain and Obama have expressed support for a GHG emissions cap and trade program. Therefore, the likelihood that some form of federal GHG legislation will become law increases under the next Presidential administration. See Ex. 19, pp. 248-250.
- 28. Additionally, various states, including Illinois, either alone or in conjunction with other states in their regions, have undertaken activities aimed at addressing GHGs. <sup>14</sup> Ex. 20 presents several maps depicting states that have adopted or are in the process of developing state-

<sup>&</sup>lt;sup>14</sup> The Illinois GHG initiative was announced by the Governor well after Ameren committed to and supported the MPS at Board hearings and mere days before the Board adopted the final mercury rule, including the MPS.

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level or regional-level initiatives or programs. Ex. 20, pp. 2-3; see also Ex. 3 at pp. 6-7; Ex. 21. The State of Illinois is working with surrounding states in the Midwestern GHG Reduction Accord to establish within the next 18 months GHG reduction goals that will include the electricity generation sector. There is no indication that any of these state or local initiatives will blend into whatever is eventually adopted at the federal level. Nevertheless, to the extent that states adopt such approaches and they become enforceable, Ameren must comply.

- 29. Further adding to the tumultuous atmosphere, apparently several USEPA Regional offices are developing GHG plans. Ex. 22.
- 30. The costs of compliance with GHG legislation and regulations are likely to be very great and will likely be the compliance program that dictates the economic viability of power companies. *See* Ex. 23. Ameren's financial position has already been affected by projections of the cost of carbon constraint.

The downgrade of AmerenGenco [which is comprised of Illinois power stations] reflects higher capital expenditures at this predominantly coal fired generating subsidiary, some of which are likely to be financed with additional long-term debt; [SIC] and the likelihood that the company will be negatively affected over the long-term by the implementation [of] additional environmental compliance requirements or controls on carbon emissions.

Ex. 24. Ameren's current analyses show that under some policy scenarios being considered in Congress, household costs and rates for electricity could rise significantly. The burden could fall particularly hard on electricity consumers and the Midwest economy because of the region's reliance on electricity generated by coal-fired power plants. Natural gas emits about half the amount of CO<sub>2</sub> that coal emits. As a result, economy-wide shifts favoring natural gas as a fuel

<sup>&</sup>lt;sup>15</sup> Climate Communities is apparently a lobbying group to ensure money from federal legislation for local activities and requirements.

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source for electric generation also could affect nonelectric transportation, heating for Ameren's customers, and many industrial processes. Under some policy scenarios being considered by Congress, Ameren believes that wholesale natural gas costs could rise significantly as well.

- 31. The Pew Center for Climate Change has compiled the results of seven different GHG economic models generated by different organizations that assess impacts from GHG legislation similar to the Lieberman-Warner Bill. These models predict in general, but to differing degrees, (i) increases in power prices, (ii) reductions in energy consumption, (iii) increases in natural gas usage, (iv) decreases in coal usage, and (v) increases in coal prices. Ex. 25. Significant changes in any one of these factors would severely impact the planning of any power generation company, but expected changes in all of them make significant planning uncertainties a certainty. Higher costs for energy could contribute to reduced demand for electricity and natural gas. Future federal and state legislation or regulations that mandate limits on the emission of GHGs would result in significant increases in capital expenditures and operating costs.
- 32. There is currently no technology which can be applied to large coal-fired power plants to reduce or capture CO<sub>2</sub> on a large scale. There are a number of promising technologies under development, including "carbon capture and storage" technology, which would strip the CO<sub>2</sub> from the gas stream and seal it underground. However, it could be 15-20 years before any such technology becomes commercially viable. As a result, the options open to Ameren to meet any near-term CO<sub>2</sub> reduction goals would be to curtail or shut down coal-fired facilities or to switch to natural gas. Most of the federal and regional legislative proposals have initial CO<sub>2</sub> reduction targets in the 2012-2015 timeframe. Should any of these proposals become law,

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meeting what is essentially an interim emission rate of 0.33 lb/mmBtu in 2013. Ameren believes it will have a much clearer understanding of the CO<sub>2</sub> controls facing its generating systems within the next two years. At that time, a more reasoned approach to meet the 0.25 lb/mmBtu SO<sub>2</sub> limit in 2015 which might avoid such stranded costs could be developed.

- 33. The Ameren Companies have already taken numerous actions to address global climate change issues, including the following:
  - seeking partners to develop wind energy for its generation portfolio;
  - participating in Department of Energy ("DOE")-sponsored research into the feasibility of sequestering CO<sub>2</sub> underground in the Illinois basin, the Plains sequestration partnership, and a Missouri sequestration project to be conducted in southwest Missouri;
  - increasing the operating efficiency and capacity of its nuclear and hydroelectric plants to provide more energy to offset fossil generation;
  - participating in the PowerTree Carbon Company, LLC, whose purpose is to reforest acreage in the lower Mississippi Valley to sequester carbon;
  - using coal combustion by-products as a direct replacement for cement, thereby reducing carbon emissions at cement kilns;
  - participating in a DOE and Missouri Department of Natural Resources project evaluating Missouri wind resources for the next generation of wind turbines;
  - funding a project investigating opportunities to reduce nitrous oxide (N<sub>2</sub>O), a potent GHG, from agricultural usage and tracking those reductions;
  - participating in "Illinois Clean Energy Community Foundation," a program that supports energy efficiency, promotes renewable energy, and provides educational opportunities;
  - establishing Pure Power, a voluntary renewable energy program in Missouri
    that allows electric customers to support development of wind farms and other
    renewable energy facilities in the Midwest; and
  - purchasing Renewable Energy Credits; the Illinois utility arm of Ameren purchased 415,000 renewable energy credits in April 2008.

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However, these actions are likely not nearly enough to address the totality of the efforts needed to comply with any future regulatory scheme to reduce GHG emissions.

- 34. The costs to comply with future legislation or regulations could be so expensive that Ameren and other similarly situated electric power generators may be forced to close some coal-fired facilities. Mandatory limits could have a material adverse impact on Ameren's results of operations, financial position, or liquidity.
- E. AMEREN REQUIRES RELIEF FROM SECTION 225.233(e)(2)(A) TO MITIGATE THE UNCERTAINTIES THAT HAVE DEVELOPED THIS SUMMER AND TO AVOID STRANDED COSTS RESULTING FROM A CHANGING REGULATORY ENVIRONMENT.
- 35. The impact on Ameren of future initiatives related to GHGs and climate change is unknown. Ameren's costs of complying with any mandated federal or state GHG program could have a material impact on its future operations, financial position, or liquidity. Ameren expects at least some better level of certainty to come about within the next two years that will enable it to make the decisions necessary for it to remain economically viable in a carbon-constrained world.
- 36. The uncertainty surrounding potential GHG legislation and regulation and its impacts on power generators have been significantly exacerbated by the CAIR vacatur, finally causing Ameren to seek regulatory relief through this requested variance. Making capital expenditures now for environmental projects at facilities that may be curtailed or shut down in the near short term due to GHG regulation or additional regulation of criteria pollutants is not financially prudent and would divert capital expenditures that could be spent on future regulatory requirements. It is for this reason that Ameren seeks this variance. Ameren must begin the procurement process, *see* par. 10 above, for environmental capital projects necessary for compliance with the MPS SO<sub>2</sub> limits shortly after the beginning of calendar year 2009 in order to

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have the pollution control equipment necessary for Ameren to comply with a system-wide SO<sub>2</sub> emission rate of 0.33 lb/mmBtu in 2013. The potential for stranded costs is extremely high and a risk that Ameren needs to avoid. Ameren believes that its ability to determine whether it is appropriate to add pollution controls to units, shut down units, or do both will become clearer within the next two years consistent with the timeline for decisions at both the federal and regional levels on GHG control requirements.

37. Section 225.233(e)(2)(A), the specific regulation from which Ameren seeks relief, provides as follows:

Beginning in calendar year 2013 and continuing in calendar year 2014, for the EGUs in each MPS Group, the owner and operator of the EGUs must comply with an <u>overall SO<sub>2</sub></u> annual emission rate of 0.33 lbs/million Btu or a rate equivalent to 44 percent of the Base Rate of SO<sub>2</sub> emissions, whichever is more stringent.

35 Ill.Adm.Code § 225.233(e)(2)(A), effective December 21, 2006. (Emphasis added.) "Overall SO<sub>2</sub> annual emission rate" means that Ameren is to average its SO<sub>2</sub> emission rate over the entire MPS Group. Under the regulations, Ameren's MPS Group consists of all EGUs it owned in Illinois as of July 1, 2006. 35 Ill.Adm.Code § 225.233(a)(3)(A). Therefore, it is appropriate and necessary that Ameren seek this variance for its system as opposed to seeking individual variances for each power station.

38. Ameren seeks relief from the requirement in Section 225.233(e)(2)(A), quoted above, that it achieve a system-wide SO<sub>2</sub> emission rate of 0.33 lb/mmBtu or a rate that is 44% of its baseline for the period from January 1, 2013, through December 31, 2014. Ameren has met with the Agency to discuss Ameren's obligations under the MPS. As a result of these discussions, the parties have agreed to emission limits applicable to Ameren which result in greater reductions in emissions than those contained in the MPS. Because the parties have

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agreed to emissions limits that will require a permanent change to the rule, Ameren understands it must file a proposal for rulemaking to incorporate the new changes into the MPS. The rulemaking process, however, requires more time than is available to Ameren to make Section 225.233(e)(2)(A) compliance decisions and serious investment decisions. Until the new limits become effective, Ameren seeks an immediate decision on the relief requested in this petition.

- 39. Ameren's current system-wide average SO<sub>2</sub> emission rate at its coal-fired units, based upon 2007 data, is 0.60 lb/mmBtu. This emission rate reflects operation of the control equipment listed on Table 1, attached hereto. When the FGD projects currently underway come online between now and 2015, there will be a gradual reduction of Ameren's system-wide SO<sub>2</sub> emission rate to 0.50 lb/mmBtu in 2010, to 0.25 lb/mmBtu by January 1, 2015 and down to 0.23 lb/mmBtu in 2017. There also will be a gradual reduction of Ameren's system-wide annual NOx emission rate to 0.14 lb/mmBtu in 2010, down to 0.11 lb/mmBtu in 2012, and ozone season NOx emission rate of 0.11 lb/mmBtu beginning in 2010.
- 40. As important as identifying the relief Ameren seeks is identifying what Ameren does not seek. Ameren does not seek a change to the requirement that it install sorbent injection on its coal-fired EGUs by July 1, 2009, for purposes of mercury removal or that it remove mercury at its units that are smaller than 90 MW by January 1, 2013, or that it meet annual and ozone season system-wide NOx emission rates of 0.11 lb/mmBtu by January 1, 2012, or that it meet a system-wide SO<sub>2</sub> emission rate of 0.25 lb/mmBtu by January 2, 2015. The only relief that Ameren seeks is from the requirement that it comply with a system-wide SO<sub>2</sub> emission rate of 0.33 lb/mmBtu by January 1, 2013.
- 41. Ameren estimates it must scrub at least 70% of its generation capacity to comply with the 0.25 lb/mmBtu emission rate by January 1, 2015. It must scrub only marginally less to

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comply with the 0.33 lb/mmBtu emission rate by January 1, 2013. Because Ameren is on a path to reduce SO<sub>2</sub> emissions between now and 2017, the environmental benefit of achieving a rate of 0.33 lb/mmBtu by 2013, compared to a rate of 0.50 lb/mmBtu in 2010, when the Coffeen and Duck Creek FGDs come online, through 2013 and reducing to 0.44 lb/mmBtu in 2014 and ultimately to 0.25 lb/mmBtu by 2015 and 0.23 lb/mmBtu by 2017, is not insignificant. The financial commitments that the 0.33 lb/mmBtu rate would require today are substantial. The associated uncertainty as to the best approach to meet the 0.33 lb/mmBtu rate is likewise substantial. Because of all of the uncertainties surrounding NOx and SO<sub>2</sub> reductions coupled with anticipated but unknown climate change requirements and because the impact to the environment, if there is any at all, is not significant, Ameren faces arbitrary and unreasonable hardship if it is not granted the variance and allowed the next two years to make responsible decisions regarding the best combinations of actions to address the myriad compliance requirements that will become applicable over the next decade and to minimize stranded costs while doing so.

42. Evaluation of Ameren's fleet does not reveal any viable alternatives to installation of FGDs on units at both its Newton and E.D. Edwards plants for Ameren to comply with the 0.33 and 0.25 lb/mmBtu emission rates other than shutting down units. Shutting down units at this point in time to achieve compliance with the 0.33 lb/mmBtu SO<sub>2</sub> rate is unreasonable, given the other system-wide reductions that will occur prior to and during the term of the requested variance and the insignificant difference in emission rates that Ameren will achieve during the term of the variance (i.e., an annual average rate of 0.50 lb/mmBtu from January 1, 2010, through December 31, 2013, and an annual average rate of 0.44 lb/mmBtu from January 1, 2014, through December 31, 2014) following installation of FGDs currently on schedule and at

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Newton. Curtailing generation to levels necessary to achieve compliance with the MPS is another alternative. Either of these alternatives could cause market disruptions, unreliable service, and increased unemployment. Therefore, the alternatives that Ameren has been able to identify are not viable.

- 43. During the next two years, Ameren will continue to evaluate its financial position and the best combination of locations and capital equipment to comply with applicable requirements. Then it will proceed with the appropriate procurement process, including obtaining financing and permits, *see* par. 10, above, to construct and install the equipment necessary for it to meet the system-wide 0.25 lb/mmBtu SO<sub>2</sub> rate required for 2015. The procurement process itself will occur prior to the term of the variance. During the term of the variance, Ameren will be constructing the necessary equipment.
- 44. The capital cost of environmental projects at its Newton and E.D. Edwards plants associated with compliance with the MPS is estimated to be \$0.9-1.2 billion, with annual estimated operating costs of \$30-40 million. These are the costs of immediate compliance. As discussed above, the procurement process for these projects, in order for them to be operational by 2013, must begin shortly after the beginning of calendar year 2009. The procurement process itself will result in some expenditure of funds, but the major capital costs occur when Ameren actually obtains the materials and equipment necessary for the construction of the FGDs.

  Ameren requests the variance for the period of January 1, 2013, through December 31, 2014, but must request the variance over four years in advance because compliance activities begin now with the long lead-time necessary for the construction of FGDs.
- F. ANY MINIMAL ENVIRONMENTAL IMPACT RESULTING FROM THE VARIANCE WILL BE OFFSET BY NEW EMISSION RATE COMMITMENTS MADE BY AMEREN.

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- 45. Any minimal environmental impact resulting from the requested relief will be offset by the new and additional emission rates for SO<sub>2</sub> and NOx Ameren has set forth in this Petition. Ameren does not have data that addresses the qualitative and quantitative impact of its activity on human health and the environment. However, USEPA has found that emissions from the coal-fired electric power generation sector as a whole tend to affect a large region of the country with relatively minimal impacts in the immediate vicinity of an individual plant. 70 Fed.Reg. 25162, 25245-49 (May 12, 2005). That is, Ameren's emissions contribute to the mix of regional pollutants that are transported on weather patterns and impact ozone and PM2.5 nonattainment areas hundreds of miles downwind. In fact, the purpose of the vacated CAIR was to address this regional impact by capping regional emissions and requiring sources to surrender an emission allowance, or, in the case of SO<sub>2</sub>, allowances, for each ton of SO<sub>2</sub> and NOx emitted. 70 Fed.Reg. 25162 (May 12, 2005). Such regional reductions of SO<sub>2</sub> and NOx would aid states with nonattainment areas to determine the reduction plans necessary for their nonattainment areas in order for them to attain the ozone and PM2.5 NAAOS.
- 46. However, while reductions of the contributions of many power plants to regional levels of ozone and PM2.5 would have a beneficial impact on nonattainment areas in general, the reductions from a single plant or even a single company's system of power plants in a single state have little measurable effect on downwind areas. 64 Fed.Reg. 28250, 28279 (May 25, 1999); 63 Fed.Reg. 57356, 57375 (October 27, 1998); 62 Fed.Reg. 60318, 60326 (November 7, 1997); Air Pollution Control Dist. of Jefferson County, Ky. v. USEPA, 739 F.2d 1071, 1093-94

<sup>&</sup>lt;sup>16</sup> The fact that the CAIR was vacated does not eviscerate the relevance and efficacy of its purpose or of the general concepts, analyses, and data underlying the rule. The transport principles addressed by the CAIR are the same as those addressed by the NOx SIP call, 63 Fed.Reg. 57356 (October 27, 1998), which has not been vacated. See North Carolina, 2008 WL 2698180 at 28.

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(6<sup>th</sup> Cir. 1984). In other words, it takes regional reductions from the power plant sector, as opposed to reductions from a single plant or even system, to produce a significant improvement in air quality in the nonattainment areas. Moreover, the difference in the downwind impact of Ameren's SO<sub>2</sub> emissions at a rate of 0.50 lb/mmBtu in 2013 and then 0.44 lb/mmBtu in 2014 compared to 0.33 lb/mmBtu for the two-year period in question may not even be measurable.

- 47. Cross-media impacts are not an issue in this matter. The variance that Ameren seeks here does not impact the requirement that it install and operate sorbent injection systems to reduce mercury emissions. Likewise, Ameren's planned NOx reductions will continue and have been enhanced through Ameren's agreement to incorporate a new annual NOx emission rate of 0.14 lb/mmBtu in 2010 and 2011, and a new ozone season NOx emission rate of 0.11 lb/mmBtu beginning in 2010, thereby resulting in NOx emission reductions earlier than what is currently required in the MPS. Although a purpose of the Acid Rain Program is to improve water quality through the reduction of SO<sub>2</sub> emissions nationally, the emission rate that Ameren will achieve during the pendency of the requested variance is significantly lower than the emission rate necessary for Ameren to comply with the Acid Rain Program. The slight increase in Ameren's SO<sub>2</sub> emission rate during the pendency of the variance should have no significant impact on water quality. In fact, there are offsetting benefits associated with granting the requested variance. Specifically, the requested variance would have the effect of reducing Ameren's waste production, in that sludges from the FGD necessary for it to comply with the 0.33 lb/mmBtu emission rate would not be generated because the FGD would not be operational.
- 48. Prior to and during the pendency of the requested variance period, as indicated above, Ameren will have FGDs come online at the Coffeen and Duck Creek Power Stations that will enable the system to meet a 0.50 lb/mmBtu SO<sub>2</sub> emission rate by 2010. This rate will

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decline to a new emission rate of 0.44 lb/mmBtu as additional FGDs are operated at Newton and E.D. Edwards and, ultimately to a new emission rate of 0.23 lb/mmBtu beginning in 2017.

Additionally, Ameren is installing scrubbers at its Sioux Power Station in Missouri, upwind of Illinois. Operation of these scrubbers, scheduled to become operational in 2010 as well, will benefit Illinois' air quality.

## G. AMEREN SHALL BE SUBJECT TO THE FOLLOWING CONDITIONS FOR THE VARIANCE AND COMPLIANCE PLAN.

- 49. Ameren requests that the term of the variance begin on January 1, 2013. Ameren requests that the variance terminate at midnight on December 31, 2014, or upon the effective date of a rulemaking amending the MPS as that set of regulations applies to Ameren's MPS Group, whichever is sooner.
- 50. Ameren suggests the following conditions to apply prior to and during the term of the variance:
  - A. Ameren's MPS Group is not subject to the provisions of Section 225.233(e)(2)(A).
  - B. Ameren's MPS Group shall comply with a system-wide average ozone-season NOx emission rate of 0.11 lb/mmBtu commencing January 1, 2010 and continuing thereafter.
  - C. Ameren's MPS Group shall comply with a system-wide average annual NOx emission rate of 0.14 lb/mmBtu from January 1, 2010, through December 31, 2011.
  - D. Ameren's MPS Group shall comply with a system-wide average annual NOx emission rate of 0.11 lb/mmBtu commencing January 1, 2012, and continuing thereafter.
  - E. Ameren's MPS Group shall comply with a system-wide annual average SO<sub>2</sub> emission rate of 0.50 lb/mmBtu by January 1, 2010.
  - F. Ameren's MPS Group shall comply with a system-wide annual average SO<sub>2</sub> emission rate of 0.44 from January 1, 2014, through December 31, 2014.

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- G. Ameren's MPS Group shall comply with a system-wide annual average SO<sub>2</sub> emission rate of 0.25 lb/mmBtu commencing January 1, 2015, and continuing thereafter.
- H. Ameren shall comply with a system-wide annual average SO<sub>2</sub> emission rate of 0.23 lb/mmBtu commencing January 1, 2017.
- 51. Ameren proposes the following compliance plan:
- A. On or before June 1, 2012, Ameren shall notify the Agency of its anticipated compliance strategy.
- B. On or before June 1, 2012, Ameren shall submit applications for construction permits for FGDs for the units to be controlled to meet the 0.25 lb/mmBtu system-wide SO<sub>2</sub> emission rate by January 1, 2015.

## H. AMEREN'S REQUESTED VARIANCE IS NOT CONTRARY TO ANY FEDERAL LAW.

52. The Board may grant the requested variance consistent with federal law and, specifically, with the Clean Air Act, 42 U.S.C. §§ 7401 *et seq*. The MPS was submitted to USEPA for approval as part of Illinois' mercury rule. With the vacatur of the CAMR, there is no longer any authority for USEPA to approve or disapprove Illinois' mercury rule. Some of the NOx and SO<sub>2</sub> reductions required by the MPS may eventually be included in Illinois' SIP that demonstrates attainment with the ozone and PM2.5 NAAQS. However, Ameren understands that the Agency has not relied upon the MPS in the attainment demonstration for the Metro-East ozone nonattainment area. There has been no other submittal that Ameren is aware of that would raise the MPS to the level of federal approval. Therefore, the MPS is not federally enforceable. Moreover, the reductions in question here, those resulting from an SO<sub>2</sub> emissions limit of 0.33 lb/mmBtu, would not occur until 2013, three years after the attainment dates for both NAAQS. Consequently, there is no federal law that requires Ameren to comply with an SO<sub>2</sub> emission rate of 0.33 lb/mmBtu in 2013, there is no federal approval of the MPS which would have the effect

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of raising it to the level of a federal regulation, and the Board's grant of this variance request, therefore, would not be inconsistent with federal law.

## I. AMEREN DOES NOT REQUEST A HEARING.

53. Ameren does not request that the Board hold a hearing in this matter. A hearing is not necessary as there are no SIP or other federal law requirements to which the emission standard is subject.

## J. CERTAIN PROVISIONS OF THE BOARD'S VARIANCE PROCEDURAL RULES ARE NOT APPLICABLE TO THIS REQUEST.

54. There is no permit that the Agency has issued that is affected by this request for variance. Section 104.206 of the Board's procedural regulations is not applicable to this request for variance. Section 104.206 specifically addresses requests for variance from the Resource Conservation and Recovery Act (RCRA). Ameren does not here seek such relief.

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WHEREFORE, for the reasons set forth above, Petitioners AMEREN ENERGY GENERATING COMPANY, AMERENENERGY RESOURCES GENERATING COMPANY, and ELECTRIC ENERGY, INC., respectfully request that the Board grant Ameren a variance from the requirement that it comply with a system-wide SO<sub>2</sub> emission rate of 0.33 lb/mmBtu for the period from January 1, 2013, through December 31, 2014.

Respectfully submitted,

AMEREN ENERGY GENERATING COMPANY, AMERENENERGY RESOURCES GENERATING COMPANY, and ELECTRIC ENERGY, INC.,

by:

Dated: October 1, 2008

Kathleen C. Bassi Renee Cipriano Amy Antoniolli SCHIFF HARDIN, LLP 6600 Sears Tower 233 South Wacker Drive Chicago, Illinois 60606 312-258-5500

Fax: 312-258-2600 kbassi@schiffhardin.com

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			Pollution Control Equipment <sup>1</sup>	SO <sub>2</sub> Emissions in Rate and TPY	Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>
tati	Coffeen Power Station (I.D. No. 135803AAA)	3AAA)			
134 CIPS Lane Coffeen, Illinois Montgomery County 184 employees	Unit 1 nominal 3,282 mmBtu/hr (1965)	Unit 2 nominal 5,544 mmBtu/hr (1972)	OFA <sup>3</sup> SCR <sup>4</sup> ESP <sup>5</sup> with FGC <sup>6</sup>	2007 SO <sub>2</sub> emission rate = 0.75 lb/mmBtu 2007 SO <sub>2</sub> mass emissions = 24,250 tons	State Operating Permits: February 13, 2004 App. No. 73020002 Unit 1 February 13, 2004 App. No. 73020001 Unit 2

<sup>1</sup> all units unless otherwise indicated

<sup>&</sup>lt;sup>2</sup> Note that listed here are construction permit issued in or after 2005 through the present and that during this period, Ameren has been issued other construction permits for projects not pertinent to this request for variance.

<sup>3</sup> overfire air

<sup>4</sup> selective catalytic reduction

<sup>&</sup>lt;sup>5</sup> electrostatic precipitator

<sup>6</sup> flue gas conditioning

# 

Address	Boilers and Sizes	Pollution	SO <sub>2</sub> Emissions in	Permits issued, issuance dates,
Number of Employees		Control Equipment <sup>1</sup>	Kate and 1 f I	application numbers, and any other relevant information <sup>2</sup>
Coffeen Power Static	Coffeen Power Station (I.D. No. 135803AAA)		Ī	
				Construction Permits:
				December 21, 2007 App. No. 07090069 New ESP for Unit 2
				December 15, 2006; revised October. 23, 2007 App. No. 06090019 New FGD for Unit 1 and Unit 2
				CAAPP Permit:
				September 29, 2005 App. No. 95090009 Appealed November 3, 2005 (PCB 06-064) Stayed February 16, 2006

## Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \* Table 1

Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>	State Operating Permit:  November 13, 1995 App. No. 78020006  Construction Permits:  November 22, 2006; revised May 23, 2008 App. No. 06070049 WFGD <sup>9</sup> system February 16, 2007 App. No. 06070048 Boiler project; New ESP
SO <sub>2</sub> Emissions in Rate and TPY	2007 SO <sub>2</sub> emission rate = 0.20 lb/mmBtu 2007 SO <sub>2</sub> mass emissions = 548 tons  Note that unit utilization was limited in 2007 due to extended unit outage.
Pollution Control Equipment	LNB' SCR ESP FGD <sup>8</sup>
Boilers and Sizes	o. 057801AAA) Unit 1 Nominal 3,713 mmBtu/hr (1976)
Address Number of Employees	Duck Creek (I.D. No. 057801AAA)  17751 North CILCO Road Canton, Illinois Fulton County (1976) 72 employees

<sup>7</sup> low NOx burner

<sup>8</sup> flue gas desuffurization (scrubber)

<sup>&</sup>lt;sup>9</sup> wet FGD

## Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

Address	Boilers and Sizes	Pollution	SO <sub>2</sub> Emissions in	Permits issued, issuance dates,
Number of Employees		Control Equipment <sup>1</sup>	Kate and 1 F Y	application numbers, and any other relevant information <sup>2</sup>
Duck Creek (I.D. No. 057801AAA)	o. 057801AAA)			
				May 7, 2007; revised. January 31, 2008 App. No. 07030025 Pilot Air Quality Control System
				CAAPP Permit:
				September 29, 2005 App. No. 95070025 Appealed November 3, 2005 (PCB 06-066) Stayed February 16, 2006

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* \* PCB 2009-021 \* \* \* \* \* \* \* Table 1

Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>		State Operating Permit:	July 1, 2004 App. No. 73010724	Construction Permits:	1 July 0 July 1	App. No. 07030026 LNB and OFA for Unit 3	August 24, 2008	App. No. 08080029 LNB and OFA for Unit 3	CAAPP Permit:	September 29, 2005 App. No. 95070026 Appealed November 3, 2005 (PCB 06-067) Stayed February 16, 2006
SO <sub>2</sub> Emissions in Rate and TPY		$2007 \text{ SO}_2$	0.50 lb/mmBtu	$2007 \text{ SO}_2 \text{ mass}$ emissions =	14,536 tons					
Pollution Control Equipment <sup>1</sup>		LNB FSP with	FGC	New LNB and OFA on	Unit 3					
ses	5AAG)	Unit 3	nominal 4,594	mmBtu/hr	(1972)	-				
Boilers and Sizes	). No. 14380	Unit 2	nominal 3,321	mmBtu/hr	(1968		·			
Bo	r Station (I.E	Unit 1	nominal 1,523	mmBtu/hr	(1960)					
Address Number of Employees	E.D. Edwards Power Station (I.D. No. 143805AAG)	7800 South	Bartonville, Illinois	Peoria County	134 employees	,,				

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \* Table I

Address	Boilers an	and Sizes	Pollution	SO <sub>2</sub> Emissions in	Permits issued, issuance dates,
Number of Employees			Control Equipment <sup>1</sup>	Rate and TPY	application numbers, and any other relevant information <sup>2</sup>
Hutsonville Power Station (I.D. No. 033801AAA)	Station (I.D. No. 0.	33801AAA)			
15142 East 1900 <sup>th</sup>	Unit 5	Unit 6	ESP	2007 SO <sub>2</sub>	State Operating Permit:
Ave. Hutsonville,	nominal 695	nominal 695		emission rate = 0.54 lb/mmBtu	February 17, 2005
Crawford County	(1952)	(1053)		2007 SO <sub>2</sub> mass	App. 140. 73020017
57 employees	(7571)	(5571)		emissions = $2,933$ tons	February 17, 2005
			-02		Onit 6
					Construction Permits:
			٠		May 14, 2006 App. No. 06040014
					Fig. Evaluation of Fuel Additives for SO <sub>2</sub> and mercury control
					April 3, 2008 App. No. 08030017
					Pilot Evaluation of Water Injection for PM Control on Unit 5

Table 1 - 1

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

Address Number of Employees	Boilers and Sizes	Pollution Control Equipment <sup>1</sup>	SO <sub>2</sub> Emissions in Rate and TPY	Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>
Hutsonville Power S	Hutsonville Power Station (I.D. No. 033801AAA)			
				August 18, 2008 App. No. 08080015 Pilot OFA Evaluation for Units 5 and 6
				CAAPP Permit:
				September 29, 2005 App. No. 95080105 Appealed November 3, 2005 (PCB 06-070) Stayed February 16, 2006

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \*

Address Number of Employees	Boilers and Sizes	Pollution Control Equipment <sup>1</sup>	SO <sub>2</sub> Emissions in Rate and TPY	Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>
Joppa (I.D. No. 127855AAC)	7855AAC)			
2100 Portland	Units 1-6	ESP	2007 SO <sub>2</sub>	State Operating Permit:
road Joppa, Illinois Massac County	nominal 1,800 mmBtu/hr each	OFA on Units 1, 3, 5	emission rate = 0.59 lb/mmBtu	June 7, 2005 App. No. 73010757
260 employees	(Units 3 and 4 1954)	o prime	emissions =	Construction Permits:
	(Units 5 and 6 1955)		26,283 tons	March 3, 2005 App. No. 05020008 OFA system for Unit 6
				December 5, 2005 App. No. 05020011 OFA system for Unit 5
				November 30, 2006 App. No. 0600057 OFA system for Unit 3
				October 24, 2007 App. No. 07090035 OFA system for Unit 1

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

1, 2006 . 06020085 Mercury Control 2008 . 08020070 Injection System	1011	]. 1
March 31, 2006 App. No. 06020085 Pilot for Mercury Control July 18, 2008 App. No. 08020070 Sorbent Injection System	March 31, 2006 App. No. 06020085 Pilot for Mercury Control	March 31, 2006 App. No. 06020085 Pilot for Mercury Control July 18, 2008 App. No. 08020070 Sorbent Injection System CAAPP Permit:
Joppa (I.D. No. 127855AAC)	()	(6)
July 18, 2008 App. No. 08020070 Sorbent Injection System		July 18, 2008 App. No. 08020070 Sorbent Injection System CAAPP Permit:

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

	1				
Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>	State Operating Permits:  May 22, 1996 App. No. 73020005	Unit 1  May 22, 1996  App. No. 73020009	May 22, 1996 App. No. 73020008 Unit 3	May 22, 1996 App. No. 73020006 Unit 4	July 23, 2003 App. No. 73020007 Unit 5
SO <sub>2</sub> Emissions in Rate and TPY	2007 SO <sub>2</sub> emission rate = 1.09 lb/mmBtu	$2007 \text{ SO}_2 \text{ mass}$ emissions = 11,383 tons			
Pollution Control Equipment <sup>1</sup>	ESP FGC on Units 1 - 4	LNB and FGC on Unit 5			
səz	AA) Unit 5 nominal	2,784 mmBtu/hr (1957)			
Boilers and Sizes	o. 13/805A. Units 3 and 4 nominal	505 mmBtu/hr each	(1946)		
B	ation (I.D. N Units 1 and 2 nominal	505 mmBtu/hr each	(1945)		
Address Number of Employees	Meredosia Power Station (I.D. No. 137805AAA)  800 South Washington Street and 2 and 4  Meredosia, Illinois Morgan County nominal nominal no	106 employees			

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \* Table 1 Power Stations and Units Comprising the MPS Group (§ 104.204(b))

		,				
Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>		Construction Permits:	July 17, 2008 App. No. 08050025 Sorbent Activation Process Demonstration Project	February 15, 2007 App. No. 06120072 FGC System for Units 1, 2, 3 and 4	CAAPP Permit:	September 29, 2005 App. No. 95090010 Appealed November 3, 2005 (PCB 06-069) Stayed February 16, 2006
SO <sub>2</sub> Emissions in Rate and TPY						·
Pollution Control Equipment <sup>1</sup>						
Boilers and Sizes	(I.D. No. 137805AAA)					
Address Number of Employees	Meredosia Power Station (I.D. No. 137805AAA)					

## Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \* \* \* Iable 1

er				·				
Permits issued, issuance dates, application numbers, and any other relevant information <sup>2</sup>		State Operating Permits:	July 30, 1998 App. No. 78080036	June 29, 2001 App. No. 83020010 Unit 2	Construction Permits:	July 11, 2008 App. No. 08010049 Sorbent Injection System	CAAPP Permit:	September 29, 2005 App. No. 95090066 Appealed November 3, 2005 (PCB 06-068) Stayed February 16, 2006
SO <sub>2</sub> Emissions in Rate and TPY		2007 SO <sub>2</sub>	0.51 lb/mmBtu	emissions = 23,497 tons				
Pollution Control Equipment <sup>1</sup>		LNB	ESP with FGC	Primary Air Duct Burners on Unit 2				
ind Sizes	8AAA)	Unit 2	nominal 5,500 mmBtu/hr	(1975)				
Boilers and Sizes	on (I.D. No. 07980	Unit 1	nominal 5,500 mmBtu/hr	(1972)				
Address Number of Employees	Newton Power Station (I.D. No. 079808AAA)	6725 North 500 <sup>th</sup> Street	Newton, Illinois Jasper County	171 employees				

Table 1 - xii

## Electronic Filing - Received, Clerk's Office, October 1, 2008 PCB 2009-021 \* \*

STATE OF MISSOURI	)	
	)	SS
ST. LOUIS CITY	)	

## <u>AFFIDAVIT OF MICHAEL L. MENNE</u>

I, MICHAEL L. MENNE, having first been duly sworn, state as follows:

- I am an employee of AMEREN ENERGY GENERATING COMPANY, AmerenENERGY RESOURCES GENERATING COMPANY, and ELECTRIC ENERGY, INC. (collectively "Ameren"), as Vice President of Environmental Services, Ameren Services Company, as authorized agent for Ameren, and as such have knowledge of the operations and environmental matters connected with Ameren.
  - 2. I have read the preceding Petition for Variance.
- 3. The statements of facts contained therein are true and correct to the best of my knowledge and belief.

FURTHER, AFFIANT SAYETH NOT.

Subscribed and sworn to before me this \_/st day of Retole

## Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

## EXHIBIT LIST

- Exhibit 1: Illinois Environmental Protection Agency, *Illinois Annual Air Quality Report 2006*, p. 34 with Ameren Power Stations and the names of the counties in which the power stations are located superimposed (December 2007) < www.epa.state.il.us/air/air-quality-report/2006/index.html >.
- Exhibit 2: Ameren, Letter to Jim Ross, Manager, Division of Air Pollution Control, Illinois Environmental Protection Agency (December 27, 2007).
- Exhibit 3: Black & Veatch Pathfinder (August 2008).
- Exhibit 4: Respondent EPA's Motion to Extend Time to File Petitions for Rehearing or Rehearing En Banc, State of North Carolina, et al. v. United States Environmental Protection Agency, No. 05-1244 (and consolidated cases) (August 8, 2008); Order, State of North Carolina v. Environmental Protection Agency, No. 05-1244 (August 15, 2008).
- Exhibit 5: Various Senators, Letter to Tom Kuhn, President, Edison Electric Institute (August 12, 2008).
- Exhibit 6: Dawn Reeves and Jenny Johnson, "White House Seeks Full CAIR Codification Despite Focus on Narrow Fix," *InsideEPA* (August 13, 2008), < www.insideepa. com/secure/docnum.asp?docnum=8132008\_narrow&f= epa\_2001.ask >.
- Exhibit 7: Jenny Johnson, "Following CAIR Vacatur, States Eye Strict Model Rule for Air Quality Plans," *InsideEPA* (August 8, 2008).
- Exhibit 8: Illinois Environmental Protection Agency, *Illinois Annual Air Quality Report 2006*, Table B2, pp. 47-48 (December 2007), < www.epa.state.il. us/air/air-quality-report/2006/index.html >.
- Exhibit 9: Environmental Commissioners of Connecticut, Delaware, the District of Columbia, Illinois, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin, Letter to Robert J. Meyers, Principal Deputy Assistant Administrator, Office of Air and Radiation, USEPA (June 11, 2008).
- Exhibit 10: USEPA Region 5, Letter to Governor Rod Blagojevich (August 18, 2008).
- Exhibit 11: USEPA, Attachment to Exhibit 10, Letter to Governor Blagojevich (August 18, 2008).
- Exhibit 12: Lorraine Howerton, Baker Botts LLP, "Federal Legislation: What's on the Horizon?" PowerPoint Presentation at Carbon and Climate Change Seminar (April 24, 2008).

## Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

- Exhibit 13: Pew Center on Global Climate Change, "Economy-wide Cap-and-Trade Proposals in the 110<sup>th</sup> Congress: Includes Legislation Introduced as of May 30, 2008, < www.pewclimate.org/docUploads/Cap-and-Trade-Chart. pdf >.
- Exhibit 14: Pew Center on Global Climate Change, "110<sup>th</sup> Congress Index of Proposals," (January 3, 2008) < www.pewclimate.org/print/4028 >.
- Exhibit 15: Howard Gruenspecht, Deputy Administrator, Energy Information Administration, "EIA Analysis of the L-W Climate Security Act of 2007," PowerPoint Presentation to the Edison Electric Institute (May 7, 2008).
- Exhibit 16: Vicki Arroyo, Director of Policy Analysis, Pew Center on Global Climate Change, "Primer on Lieberman-Warner Climate Security act (S. 2191) as Reported out of Senate EPW Committee," PowerPoint Presentation (May 2008), < www.pewclimate. org/docUploads/Arroyo-PPT.pdf>.
- Exhibit 17: Darren Samuelsohn, "On Climate Legislation, It Looks Like 'Wait Until Next Year," Yale Environment 360 (June 3, 2008) < www.e360.yale.edu/content/print.msp?id=2009 >.
- Exhibit 18: "Lieberman-Warner Bill, Boxer Amendment (S. 3036)," < www.uschamber.com/issues/index/environment/080603climatechange. htm >.
- Exhibit 19: Hari M. Osofsky, "Climate Change Legislation in Context," *Northwestern University Law Review Colloquy*, 102 (2008): 245-252 < www.law.northwestern. edu/lawreview/colloquy/2008/9/>.
- Exhibit 20: Melinda E. Taylor, University of Texas School of Law, "Building Momentum for National Legislation: Action by the States and Federal Agencies Since 2001," PowerPoint Presentation at Carbon and Climate Change Seminar (April 24, 2008).
- Exhibit 21: Climate Communities, "Climate Action from the Ground Up: Agenda for Federal Action," < www.climatecommunities.us >.
- Exhibit 22: Anthony Lacey, "EPA Regions Draft Internal GHG Plans to Prepare for Climate Rules," *InsideEPA* (August 19, 2008), < www.insideepa.com/secure/docnum.asp?docnum=8192008\_ghgplans&=epa\_2001.ask >.
- Exhibit 23: Janet Peace, Director of Markets and Business Strategies, Senior Economist, Pew Center on Global Climate Change, "Insights from Modeling Analyses of the Lieberman-Warner Climate Security Act (S. 2191)," PowerPoint presentation (May 2008), < www.pewclimate.org/docUploads/Peace-PPT.pdf >.
- Exhibit 24: Moody's Investor Service, "Rating Action: Ameren Corporation" (August 13, 2008).

## Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

- Exhibit 25: Pew Center on Global Climate Change, "Insights from Modeling Analyses of the Lieberman-Warner Climate Security Act (S. 2191)" (May 2008).
- Exhibit 26: "Seeking CAIR Consensus," *InsideEPA.com* (August 22, 2008), < www.insideepa. com/secure/docnum.asp?docnum=8222008 blogcair&f=epa 2001.ask >.
- Exhibit 27: Andrew Childers, "Air Pollution: White House, Congressmen Offer Alternatives to Interstate Rule Vacated by Appeals Court," *Daily Environment Report* (August 25, 2008), BNA, Inc., < www.pubs.bna.com/ip/bna/DEN.NSF/eh/a06b6z2c861 >.
- Exhibit 28: Christine Tezak and K. Whitney Stanco, "CAIR Update Odd Bedfellows," editorial, Washington Electricity/Environmental Bulletin (August 25, 2008), Stanford Group Company, < www.standordinstitutional.com >.
- Exhibit 29: Dean Scott, "Climate Change: With End of Congressional Session in Sight, House Unlikely to Act on Capping Emissions," *Daily Environment Report* (September 10, 2008), BNA, Inc., < www.pubs.bna.com/ip/bna/DEN.NSF/eh/a0b7b0p1t3 >.

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\* \* \* \* \* PCB 2009-021 \* \* \* \* \*

## Exhibit 1

Map Depicting Ameren's Power Stations and Agency Air Quality Monitoring Stations

Illinois Environmental Protection Agency, *Illinois Annual Air Quality Report 2006*, p. 34 with Ameren Power Stations and the names of the counties in which the power stations are located superimposed (December 2007) < <a href="https://www.epa.state.il.us/air/air-quality-report/2006/index.html">www.epa.state.il.us/air/air-quality-report/2006/index.html</a> >.

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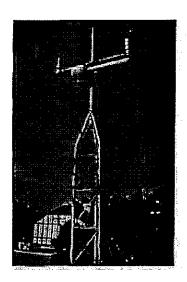
\* \* \* \* \* PCB 2009-021 \* \* \* \* \*

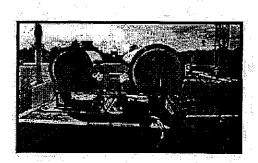
State of Illinois Rod R. Blagojevich, Governor

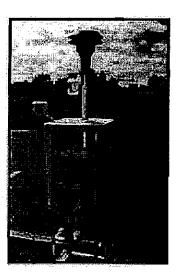
Illinois Environmental Protection Agency Douglas P. Scott, Director

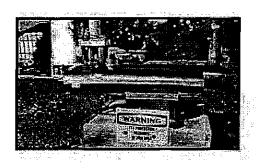


## Illinois Annual Air Quality Report 2006

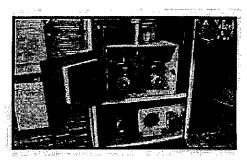








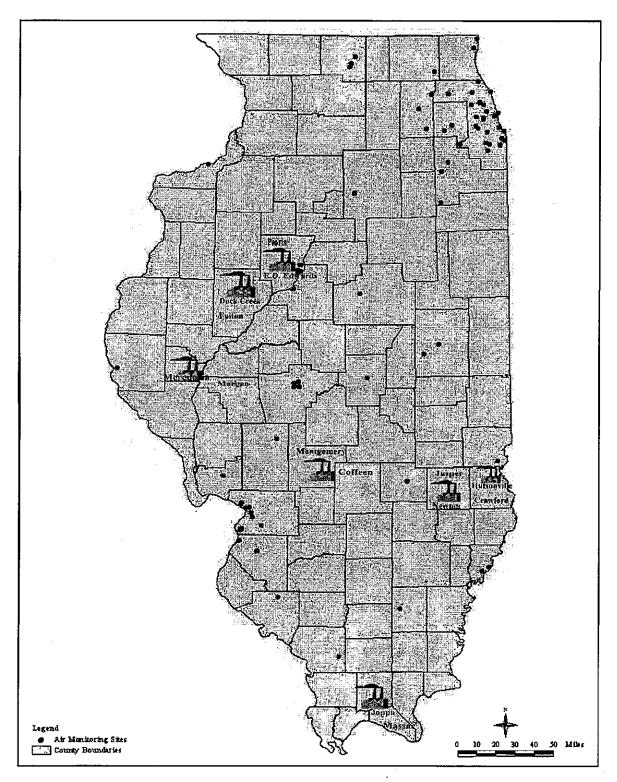






## Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

## Statewide Map of Air Monitoring Locations



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\* \* \* \* \* PCB 2009-021 \* \* \* \* \*

## Exhibit 2

Ameren's Opt-in to the MPS

Ameren, Letter to Jim Ross, Manager, Division of Air Pollution Control, Illinois Environmental Protection Agency (December 27, 2007).

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Ameren Energy Resources

R. Alan Kelley President & Chief Executive Officer One Ameren Plaza 1901 Chouteau Avenue PO Box 66149, MC 10 St. Louis, MO 63166-6149 314.554.2849 314.554.3066 fax rakelley@ameren com

December 27, 2007

Mr. Jim Ross, Manager
Division of Air Pollution Control
Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P. O. Box 19726
Springfield, IL 62794-9276

RE: Illinois Mercury Rule Multi-Pollutant Standard - Notice of Intent



Dear Mr. Ross:

In accordance with 35 Illinois Administrative Code Part 225 Subpart B Section 225.233 (b), Ameren Energy Resources, as authorized agent for Ameren Energy Generating Company, Ameren Energy Resources Generating Company and Electric Energy Inc., submits this notice of intent that the owners of the following eligible electric generating units elect to demonstrate compliance with the multipollutant emission limitation as an alternative to the emission standards of Section 225.230. This notice of intent is submitted for the following emission units that are eligible electric generating units (EGUs):

#### Ameren Energy Generating Company

Facility	Facility I. D.	Emission Unit
Coffeen	135803AAA	01
Coffeen	135803AAA	02
Hutsonville	033801AAA	05
Hutsonville	033801AAA	06
Meredosia	137805AAA	01
Meredosia	137805AAA	02
Meredosia	137805AAA	03
Meredosia	137805AAA	04
Meredosia	137805AAA	05
Newton	079808AAA	1
Newton	079808AAA	2

#### AmerenEnergy Resources Generating Company

Facility	Facility I. D.	Emission Unit
Duck Creek	057801AAA	1
E. D. Edwards	143805AAG	]
E. D. Edwards	143805AAG	2
E. D. Edwards	143805AAG	3

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

#### Electric Energy, Inc.

Facility	Facility I. D.	Emission Unit
Joppa	127855AAC	1
Јорра	127855AAC	2
Јорра	127855AAC	3
Јорра	127855AAC	4
Јорра	127855AAC	5
Јорра	127855AAC	6

The electric generating units (EGUs) identified above are eligible to participate as an Multi-Pollutant Standard Group for the purpose of demonstrating compliance with the requirements of 35 Illinois Administrative Code Part 225 Subpart B Section 225.233. This notice of intent includes the following components as attachments to this submittal: the base emission rates for the EGUs and supporting data; a summary of current pollution control equipment installed; and a summary of additional pollution control equipment that will likely be installed to comply with the MPS.

The EGUs identified in this notice of intent have commenced commercial operation on or before December 31, 2004 and constitute all affected EGUs that were owned by the listed affiliates as of July 1, 2006.

I am authorized to make this submission on behalf of the owners and operators of the affected units for which this submission is made. Please contact Steven Whitworth at (314) 554 - 4908 if you have any questions concerning this submittal or if additional information is required.

Sincerely,

R. Alan Kelley

President, Ameren Energy Generating Company

President, AmerenEnergy Resources Generating Company

Director and Chairman, Electric Energy, Inc.

SCW/AEGAERGEEI\_MPSnotice

Attachments

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

# Ameren Energy Resources Company Multi-Pollutant Standard Notice of Intent Attachment A Summary of Existing Pollution Control Equipment

### Ameren Energy Generating Company

Facility	Facility I. D.	Emission Unit	Particulate Control	NOx Control	SO2 Control
Coffeen	135803AAA	01	ESP	OFA/SCR	
Coffeen	135803AAA	02	ESP	OFA/SCR	
Hutsonville	033801 AAA	05	ESP		
Hutsonville	033801AAA	06	ESP		
Meredosia	137805AAA	01	ESP		
Meredosia	137805AAA	02	ESP		
Meredosia	137805AAA	03	ESP		
Meredosia	137805AAA	04	ESP		
Meredosia	137805AAA	05	ESP	LNB	
Newton	079808AAA	1	ESP	OFA/LNB	
Newton	079808AAA	2	ESP	OFA/LNB	

# AmerenEnergy Resources Generating Company

Facility	Facility I. D.	Emission Unit	Particulate Control	NOx Control	SO2 Control
Duck Creek	057801AAA	1	ESP	LNB/SCR	FGD
E. D. Edwards	143805AAG	1	ESP	LNB	
E. D. Edwards	143805AAG	2	ESP	LNB	
E. D. Edwards	143805AAG	3	ESP	OFA/LNB/SCR	

# Electric Energy, Inc.

Facility	Facility I. D.	Emission Unit	Particulate Control	NOx Control	SO2 Control
Јорра	127855AAC	1	ESP	LNB	
Joppa	127855AAC	2	ESP	LNB	
Joppa	127855AAC	3	ESP	LNB	
Joppa	127855AAC	4	ESP	LNB	
Јорра	127855AAC	5	ESP	OFA/LNB	
Joppa	127855AAC	6	ESP	OFA/LNB	

Electronic Filing - Received, Clerk's Office, October 1, 2008
\* \* \* \* \* PCB 2009-021 \* \* \* \* \*

Ameren Energy Resources Company Multi-Pollutant Standard Notice of Intent Attachment B Base Emission Rate Determination

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

### Ameren MPS Base Annual Emission Rate Determination

2003 Company	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)	SO2 Rate (#mmBtu)	SO2 (tons)
AEGC	158,452,698	0.259	20,527	1.14	90,117
AERGC	63,611,097	0.368	11,690	2.06	65,440
EEI	89,504,514	0.129	5,771	0.54	24,026
AER Illinois	311,568,309	0.244	37,988	1.15	179,583

2004 Сотралу	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)	SO2 Rate (#/mmBtu)	SO2/ (tons)
AEGC	171,427,867	0.249	20,710	1.06	90,532
AERGC	70,737,248	0.309	10,897	1.47	52,058
EEI	92,482,478	0.127	5,860	0.61	28,048
AER Illinois	334,647,593	0.224	37,467	1.02	170,638

2005 Company	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)	SO2 Rate (#/mmBtu)	SO2 (tons)
AEGC	160,864,003	0.253	18,494	1.04	83,905
AERGC	65,569,490	0.267	8,619	1.22	39,999
EEI	86,505,712	0.128	5,524	0.60	25,963
AER Illinois	312,939,205	0,235	32,637	1.01	149,867

Annual Average Company	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)	SO2 Rate (#/mmBtu)	SO2 (tons)
AEGC	163,581,523	0.243	19,910	1.08	88,185
AERGC	66,639,278	0,312	10,402	1.58	52,499
EE)	89,497,568	0.128	5,718	0.58	26,012
AER Illinois	319,718,369	0.225	36,031	1.04	166,696

**MPS** Rates

% of base rate

% of base rate

NOx at 0.11 or 52% of base rate in 2012 SO2 at 0.33 or 44% of base rate in 2013 SO2 at 0.25 or 35% of base rate in 2015 0.117

0.46

0.36

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

# Ameren MPS Base Seasonal NOx Emission Rate Determination

2003 Company	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)
AEGC	71,819,229	0.159	5,706
AERGC	26,917,427	0.255	3,427
EEI	37,416,091	0.126	2,359
AER Illinois	136,152,747	0.169	11,492

2004	Heat Input	NOx Rate	NOx
Company	(mmBtu)	(#/mmBtu)	(tons)
AEGC	72,205,935	0.153	5,508
AERGC	30,512,335	0.180	2,750
EEI	30,951,063	0.126	1,956
AER Illinois	133,669,333	0.153	10,214

2005	Heat Input	NOx Rate	NOx
Company	(mmBtu)	(#/mmBtu)	(tons)
AEGC	77,068,042	0.146	5,614
AERGC	28,277,603	0.170	2,397
EEI	37,004,541	0.126	2,328
AER Illinois	142,350,186	0.147	10,339

Seasonal Average Company	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)
AEGC	73,697,735	0.152	5,609
AERGC	28,569,121	0.200	2,858
EEI	35,123,898	0.126	2,214
AER Illinois	137,390,755	0.155	10,682

MPS Rates

% of base rate

NOx at 0.11 or 80% of base rate in 2012

0.124

# Electronic Filing - Received, Clerk's Office, October 1, 2008 \* \* \* \* \* PCB 2009-021 \* \* \* \* \*

# Ameren Energy Resources Company Multi-Pollutant Standard Notice of Intent Attachment C Summary of Likely Future Pollution Control Equipment

# Ameren Energy Generating Company

Facility	Facility I. D.	Emission Unit	Mercury Control	NOx Control	SO2 Control
Coffeen	135803AAA	01 .	SCR/FGD	OFA/SCR	FGD
Coffeen	135803AAA	02	SCR/FGD	OFA/SCR	FGD
Hutsonville	033801AAA	05	ACI (2013)	OF A/LNB	
Hutsonville	033801AAA	06	ACI (2013)	OF A/LNB	
Meredosia	137805AAA	01	ACI (2013)		
Meredosia	137805AAA	02	ACI (2013)	, , , , , , , , , , , , , , , , , , ,	
Meredosia	137805AAA	03	ACI (2013)		
Meredosia	137805AAA	04	ACI (2013)		
Meredosia	137805AAA	05	ACI (2009)	OFA/LNB	
Newton	079808AAA	1	ACI (2009)	OF.A/LNB/SCR	FGD
Newton	079808AAA	2	ACI (2009)	OFA/LNB/SCR	FGD

# AmerenEnergy Resources Generating Company

Facility	Facility I. D.	Emission Unit	Mercury Control	NOx Control	SO2 Control
Duck Creek	057801AAA	1	SCR/FGD	LNB/SCR	FGD
E. D. Edwards	143805AAG	1	ACI (2009)	OFA/LNB	
E. D. Edwards	143805AAG	2	ACI (2009)	OFA/LNB	
E. D. Edwards	143805AAG	3	ACI (2009)	OFA/LNB/SCR	FGD

### Electric Energy, Inc.

Facility	Facility I. D.	Emission Unit	Mercury Control	NOx Control	SO2 Control
Јорра	127855AAC	1	ACI (2009)	OFA/LNB	FGD
Joppa	127855AAC	2	ACI (2009)	OFA/LNB	FGD
Јорра	127855AAC	3	ACI (2009)	OFA/LNB	
Јорра	127855AAC	4	ACI (2009)	OFA/LNB	
Joppa	127855AAC	5	ACI (2009)	OFA/LNB	FGD
Joppa	127855AAC	6	ACI (2009)	OFA/LNB	FGD

ATTACHMENT B

IEPA	Emis	sion Calculatio	n Method					
MPS	Base	line Calculati	ons  -		0			
			0005	Annual	Ozone Sn	000 T	NO #	
Year		Heat Input**			NOx Rate			
		336,991,274	<del></del>	0.15		92,673		
		336,991,274						
		336,991,274				·		
		336,991,274						
		336,991,274						
		336,991,274		0.11	0.11			
		336,991,274		0.11	0.11			
		336,991,274		0.11	0.11			
		336,991,274						
		336,991,274						
	2020	336,991,274	0.25	0.11	0.11	42,124	18,535	
T - 4 - 1						644.069	247.250	950 20
Γotal						641,968	217,359	859,32
Ame	ren Pı	oposed Ame	ndment					
				Annual	Ozone Sn			
Year		Heat Input**	SO2 Rate		NOx Rate	SO2 Tons	NOx Tons	
		336,991,274		0.14				
		336,991,274	h	0.14				
		336,991,274						
		336,991,274						
		336,991,274						
		336,991,274		0.11	0.11			
		336,991,274			0.11	· · · · · · · · · · · · · · · · · · ·		
		336,991,274			0.11	38,754	- · · · · ·	
		336,991,274				38,754		
		336,991,274		0.11	0.11	38,754		
		336,991,274		0.11	0.11	38,754		
Total		,,,				648,708		858,48
				Difference	from base	-6,740	7,582	842
								· · · · · · · · · · · · · · · · · · ·
* Neg	gative	means emissi	on increase	and positiv	e means er	nission deci	rease	
** Ho	at Inn	ut is the avera	ae of the th	ree hiahest	vears for 20	000 to 2007		

ATTACHMENT C

MPS Baseine Calculations	IEPA Emission Calculation Method	lation Method											
Heat Input   SOZ Rale   Nox Rale   SOZ Tons   Nox Tons   Total Tons   Annual   Cozone   Coz	MPS Baseline Calcu	lations								Actual CFM	S Heat Input		
Heat Input   202 Rate   NOx Rate   SO2 Tons   NOx Tons   Total Tons   Cornel Input   202 Rate   NOx Rate   SO2 Tons   NOx Tons   Total Tons   2007   34,0446,526   0.55   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.11   0.11   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15   0.15			Annual	Ozone Sn						annual	ozone		
2010 304,446,522 0.55 0.15 0.15 0.15 0.83,623 25,533 119,156 2000 332759960 140009574 41,129% 2013 304,446,522 0.55 0.11 0.11 95,677 112,347 2006 33599999 143233414 42,139% 2014 304,446,522 0.25 0.11 0.11 95,677 112,347 2006 33599999 143233414 42,139% 2015 304,446,522 0.25 0.11 0.11 42,556 18,725 61,280 2003 314688209 143253414 43,70% 2016 304,446,522 0.25 0.11 0.11 42,556 18,725 61,280 2003 234647393 1396933 39,94% 2017 304,446,522 0.25 0.11 0.11 42,556 18,725 61,280 2003 234647393 1396933 39,94% 2018 304,446,522 0.25 0.11 0.11 42,556 18,725 61,280 2000 2000 234647393 13969349 1415749 41,57% 2019 304,446,522 0.25 0.11 0.11 42,556 18,725 61,280 2000 2000 239590515 2000 23959091 2390949 14,57% 2019 304,446,522 0.25 0.11 0.11 42,556 18,725 61,280 2000 2000 239590515 2000 23959091 2390949 14,57% 2019 304,446,522 0.25 0.11 0.11 42,556 18,725 61,280 2000 2000 239590515 2000 2390991 2390949 14,57% 2019 304,446,522 0.25 0.11 0.11 85,112 21,703 106,815 8511 17,022 20,427 0 7,660 8,511 201 304,446,522 0.25 0.11 0.11 85,112 21,703 106,815 8511 17,022 20,427 0 7,660 17,022 20,130,446,522 0.25 0.11 0.11 85,112 18,725 61,280 0 20,427 0 7,660 17,022 20,130,446,522 0.25 0.11 0.11 85,112 18,725 61,280 0 20,427 0 7,660 3,404 20,130,446,522 0.25 0.11 0.11 85,112 18,725 61,280 0 20,427 0 7,660 3,404 20,130,446,522 0.25 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 20,130,446,522 0.23 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 20,130,446,522 0.23 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 20,130,446,522 0.23 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 20,130,446,522 0.23 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 20,130,446,522 0.23 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 20,130,446,522 0.23 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 20,130,446,522 0.23 0.11 0.11 39,151 18,725 51,876 3,404 10,273 0 7,660 3,404 0.10 0 7,660 3,404 0.10 0 7,660 3,404 0.10 0 7,660 3,404 0.10 0 7,660 3,404 0.10 0 7,660 3,404 0.10 0 7,660 3,404 0.10 0					SO2 Tons					(mmBtu)	(mmBtu)		
2013 340,446,222 0.65 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.1					<u> </u>				2008				
2013 340,446,222 0.55 0.11 0.11 99,622 143,725 142,347 2006 32596949 141,323414 4,2,066 45,49% 2013 340,446,222 0.23 0.11 0.11 66,174 18,175 74,888 2013 320,438 3.89,49% 2014 340,446,222 0.25 0.11 0.11 42,556 18,725 61,280 2001 238520333 30,446,222 0.25 0.11 0.11 42,556 18,725 61,280 2001 238520339 2013 336,647393 133669333 39,49% 2017 340,446,222 0.25 0.11 0.11 42,556 18,725 61,280 2001 238520339 2014 2014 2014 2014 2014 2014 2014 2014									2007	342609586	Ĺ	41.13%	
2015 340,446,222 0.33 0.11 0.11 56,174 18,725 74,886 2003 312683930 13369833 39,94% 2015 340,446,222 0.23 0.11 0.11 42,556 18,725 61,280 2003 310,075411 43.70% 2015 340,446,222 0.25 0.11 0.11 42,556 18,725 61,280 2000 2000 2000 2000 2000 2000 2000									2006				
2014 340,446,252   0.33   0.11   0.11   56,114   18,725   74,888   2004   3364,7593   33969333   339,94%     2015 340,446,252   0.25   0.11   0.11   42,566   18,725   61,280   2002   310075471   43.70%     2018 340,446,252   0.25   0.11   0.11   42,566   18,725   61,280   2002   20075471   33167601     2018 340,446,252   0.25   0.11   0.11   42,566   18,725   61,280   2001   28659039   2007641   2167722   42,46%     2019 340,446,252   0.25   0.11   0.11   42,566   18,725   61,280   2001   28659039   2007641   2167722   42,46%     2019 340,446,252   0.25   0.11   0.11   42,566   18,725   61,280   2001   28658915   2167722   41,57%     2010 340,446,252   0.25   0.11   0.11   42,566   18,725   61,280   2001   28658916   2001   28658916     2011 340,446,252   0.25   0.11   0.11   42,566   18,725   61,280   2001   28,511   21,703   106,815   8,511   26,533   20,44%     2012 340,446,252   0.50   0.14   0.11   85,112   21,703   106,815   8,511   25,533   0.0   7,660   12,341   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134   20,134									2005				
2016 340,446,252 0.25 0.11 0.11 42,556 18,725 61,280 200 2002 31568309 136152747 43,70% 2016 340,446,252 0.25 0.11 0.11 42,556 18,725 61,280 200 2002 2002 2002 2002 2003 20,14 0.11 42,556 18,725 61,280 200 200 28685815 20 25 0.11 0.11 42,556 18,725 61,280 200 200 28685815 20 25 0.11 0.11 42,556 18,725 61,280 200 200 28685815 20 25 0.11 0.11 42,556 18,725 61,280 200 200 28685815 20 25 0.11 0.11 42,556 18,725 61,280 200 200 28685815 20 25 0.11 0.11 42,556 18,725 61,280 20 20 20 20 20 20 20 20 20 20 20 20 20					56				2004				
2016 340,446,525 0.25 0.11 0.11 42,556 18,725 61,280 200 200 296895913 2001 290446,525 0.25 0.11 0.11 42,556 18,725 61,280 200 200 29689513 340,446,525 0.25 0.11 0.11 42,556 18,725 61,280 200 200 29689513 340,446,525 0.25 0.11 0.11 42,556 18,725 61,280 200 200 29689513 340,446,525 141524894 41,57% 200 340,446,525 0.25 0.11 0.11 42,556 18,725 61,280 340,446,525 141524894 41,57% 200 340,446,525 0.25 0.11 0.11 42,556 18,725 61,280 340,446,525 141524894 41,57% 340,446,525 0.25 0.11 0.11 85,112 18,725 10,388 85,11 17,022 3830 7,660 12,341 201 340,446,525 0.25 0.11 0.11 85,112 18,725 10,388 85,11 17,022 3830 7,660 17,022 1.20 340,446,525 0.25 0.11 0.11 85,112 18,725 10,388 85,11 17,022 30,427 0 7,660 1.70 0.1 39,151 18,725 11,388 91 14,021 0 7,660 3,404 1.70 0.2 340,446,525 0.25 0.11 0.11 39,151 18,725 51,889 340,4 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.2 3,404 1.70 0.1 39,151 18,725 57,876 3,404 -6,809 7,660 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404 1.70 0.2 3,404	2015 340,446,				42				2003		<u> </u>		
2017         340,446,522         0.25         0.11         42,556         18,725         61,280         2000         285529039         4           2018         340,446,522         0.25         0.11         0.11         42,556         18,725         61,280         average         2000         29688815         41,57%         4           2020         340,446,522         0.25         0.11         0.11         42,556         18,725         61,280         inghest3         340,446,222         141524894         41,57%         4           2020         340,446,252         0.25         0.11         0.11         42,556         18,725         61,280         inghest3         340,446,222         141524894         41,57%         4           101         0.11         0.11         42,556         18,725         61,280         inghest3         340,46522         141524894         41,57%         4           101         0.11         0.11         0.11         86,112         21,703         106,815         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511         8,511	2016 340,446,				42				2002				
2018 340,446,222 0.25 0.11 0.11 42,556 18,725 61,280 average 318976014 139167722 42,46% 4 4 157% 510 340,446,222 0.25 0.11 0.11 42,556 18,725 61,280 iiijhest 3 340,446,222 141524894 41,57% 4 157% 510 340,446,222 0.25 0.11 0.11 42,556 18,725 61,280 iiijhest 3 340,446,222 141524894 41,57% 510 340,446,222 0.25 0.11 0.11 85,112 17,02 17,03 106,815 8,511 25,334 0 7,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,680 17,68									2001				
2019   340,446,252   0.25   0.11   0.11   42,556   18,725   61,280   19,0446,252   0.25   0.11   0.11   42,556   18,725   61,280   19,0446,252   0.25   0.11   0.11   42,556   18,725   61,280   19,0446,252   0.20   0.14   0.11   85,112   21,703   0.6816   8.511   3,830   3,830   12,341   2.011   340,446,252   0.25   0.11   0.11   39,151   18,725   0.12   0.14   0.11   39,151   18,725   0.12   0.14   0.11   39,151   18,725   0.12   0.14   0.11   39,151   18,725   0.12   0.14   0.11   39,151   18,725   0.12   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.11   39,151   18,725   0.14   0.12   0.14   0.11   39,151   18,725   0.14   0.12   0.14   0.11   39,151   18,725   0.14   0.15   0.14   0.11   39,151   18,725   0.14   0.15   0.14   0.11   39,151   18,725   0.14   0.15   0.14   0.11   39,151   18,725   0.14   0.15   0.14   0.11   39,151   18,725   0.14   0.15   0.14   0.11   39,151   18,725   0.14   0.15   0.14   0.11   39,151   18,725   0.14   0.15   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14   0.14					42				2000				
Part   Proposed Amendment   Part					42				average	318976014			
Fig. 2017   State   Continual   Councer Sri   Councer Sri   Continual   Councer Sri   Councer Sr					42				highest 3	340446252			
Heat Input   SOZ Rate   NOx Rate   SOZ Tons   NOx Tons   Total Tons   SOZ Diff.   SOZ Cumul   NOx Diff.   NOx Cumul   Total Diff.   Cumul   NOx Diff.   NOx Cumul   Total Diff.   Cumul   NOx Diff.   NOx Cumul   Total Diff.   Cumul   SOZ Rate   NOx Rate   SOZ Tons   NOx Tons   Total Tons   SOZ Diff.   SOZ Cumul   NOx Diff.   NOx Cumul   Total Diff.   Cumul   SOZ Rate   NOX Rate   SOZ Tons   NOX Tons   Total Tons   SOZ Diff.   SOZ Cumul   NOX Diff.   NOX Cumul   Total Diff.   Cumul   SOZ Rate   NOX Rate   SOZ Tons   NOX Tons   Total Tons   SOZ Diff.   SOZ Cumul   NOX Diff.   NOX Cumul   Total Diff.   Cumul   SOZ Rate   NOX Rate   SOZ Tons   Total Tons   SOZ Diff.   SOZ Cumul   NOX Diff.   NOX Cumul   Total Diff.   Cumul   SOZ Rate   NOX Rate   SOZ Tons   Total Tons   Total Diff.   Cumul   Total Diff.   Cumul   Total Diff.   SOZ Rate   SOZ Tons   Total Diff.   Cumul   Total Diff.   SOZ Rate   Total Diff.   SOZ Rate   Total Diff.   SOZ Rate   Total Diff.   Cumul   Total Diff.   Cumul   Total Diff.   SOZ Rate   Total Diff.   Cumul   Total Diff.   Cumul   Total Diff.   Total Diff.   SOZ Rate   Total Diff.   Cumul   Total Diff.   Total Di	Total				648,550								
Leaf Imput         Annual         Ozone Sn         Nox Tons         Total Total Tons         SOZ Diff.         SOZ Cumul.         NOX Cumul.         Total Diff.         Cumul.													
ren Proposed Amendment         Annual         Ozone Sn         Nox Tons Total Tons         Total Inc.         SOZ Diff.         SOZ Diff.         SOZ Cumul.         NOX Cumul.         Total Diff.         Cumul.           2010         340,446,252         0.50         0.14         0.11         85,112         21,703         106,815         8,511         3,630         3,830         12,341         2,041           2011         340,446,252         0.50         0.14         0.11         85,112         17,022         3,633         3,830         12,341         2,341           2013         340,446,252         0.50         0.11         0.11         85,112         18,725         103,836         8,511         20,427         0         7,660         228,938         3,404         0         7,660         228,938         2,20,427         0         7,660         -28,938         0         17,022         20,427         0         7,660         -17,022         20,427         0         7,660         -17,022         220,427         0         7,660         -17,022         220,427         0         7,660         -17,022         20,427         0         7,660         -17,022         20,427         0         7,660         -17,022         20,427													
Heat Input SO2 Rate NOx Rate SO2 Tons NOx Tons Total Tons SO2 Diff. SO2 Curnul. NOx Diff. NOx Curnul. Total Diff. Curnul. 340,446,252 0.50 0.14 0.11 85,112 21,703 106,815 8.511 2.533 0.7660 12,341 2.2013 340,446,252 0.50 0.11 0.11 85,112 18,725 103,836 28,511 2.5633 0.7660 2.89,38 1.20 1.20,427 0.7660 1.70,20 1.40,446,252 0.25 0.11 0.11 73,196 18,725 10,220 1.70,422 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,22 1.70,42 1.70,42 1.70,42 1.70,42 1.70,42 1.70,44 1.70,42 1.70,42 1.70,42 1.70,42 1.70,42 1.70,42 1.70,44 1.70,42 1.70,42 1.70,42 1.70,42 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,44 1.70,	Ameren Proposed	<b>Amendment</b>									_		
Heat Input   SO2 Rate   NOx Rate   SO2 Tons   NOx Tons   Total Tons   SO2 Diff.   SO2 Cumul.   NOx Cumul.   Total Diff.   Cumul.   NOx Cumul.   Total Diff.   Cumul.   SO2 Rate   NOx Rate   NOx Rate   SO2 Tons   NOx Tons   Total Tons   SO2 Diff.   SO2 Cumul.   NOx Diff.   NOx Cumul.   Total Diff.   Cumul.   SO2 Rate   SO3			Annual										
2010         340,446,252         0.50         0.14         0.11         85,112         21,703         106,815         8,511         3,830         3,830         12,341         2           2011         340,446,252         0.50         0.14         0.11         85,112         21,703         106,815         8,511         17,022         3,830         7,660         12,341         2           2012         340,446,252         0.50         0.11         0.11         85,112         18,725         103,836         -28,938         -3,404         0         7,660         8,511         2           2013         340,446,252         0.50         0.11         0.11         7,196         18,725         10,380         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022         -20,427         0         7,660         -17,022 <td< td=""><td></td><td></td><td>NOx Rate</td><td></td><td>SO<sub>2</sub> Tons</td><td></td><td></td><td></td><td>Cumul.</td><td>NOx Diff.</td><td>NOx Cumul.</td><td></td><td>Cumulative E</td></td<>			NOx Rate		SO <sub>2</sub> Tons				Cumul.	NOx Diff.	NOx Cumul.		Cumulative E
2011         340,446,252         0.50         0.14         0.11         85,112         21,703         106,815         8,511         17,022         3,830         7,660         12,341         2           2012         340,446,252         0.50         0.11         0.11         85,112         18,725         103,836         -28,938         -3,404         0         7,660         28,938           2013         340,446,252         0.50         0.11         0.11         85,112         18,725         103,836         -28,938         -3,404         0         7,660         -28,938           2014         340,446,252         0.43         0.11         0.11         73,196         18,725         61,280         0         -20,427         0         7,660         -17,022         -2,427         0         7,660         0         -17,022         -2,4427         0         7,660         0         -17,022         -20,427         0         7,660         0         0         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28,938         -28					85,112		106,815	8,511	8,511	3,830			12,341
2012         340,446,252         0.50         0.011         85,112         18,725         103,836         8,511         25,533         0         7,660         8,511         2           2013         340,446,252         0.50         0.011         0.011         85,112         18,725         103,836         -28,938         -3,404         0         7,660         -28,938           2014         340,446,252         0.65         0.011         0.011         73,196         18,725         91,920         -17,022         -20,427         0         7,660         -17,022         -2         20,427         0         7,660         -17,022         -2         0         -17,022         -2         0         -17,022         -20,427         0         7,660         -17,022         -17,022         -2         0         -17,022         -2         0         -17,022         -17,022         -17,022         0         0         -17,022         0         0         0         0         -17,022         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0					85,112			8,511	17,022	3,830			24,682
2013         340,446,252         0.50         0.11         85,112         18,725         103,836         -3,404         0         7,660         -28,938           2014         340,446,252         0.43         0.11         0.11         73,196         18,725         91,920         -17,022         -20,427         0         7,660         -17,022            2015         340,446,252         0.25         0.11         0.11         42,556         18,725         61,280         0         -20,427         0         7,660         0            2016         340,446,252         0.25         0.11         0.11         42,556         18,725         61,280         0         -20,427         0         7,660         0            2017         340,446,252         0.23         0.11         0.11         18,725         57,876         3,404         -13,618         0         7,660         3,404           2018         340,446,252         0.23         0.11         39,151         18,725         57,876         3,404         -10,213         0         7,660         3,404           2018         340,446,252         0.23         0.11         39,151         18,725					85,112			8,511	25,533	0			33,194
2014         340,446,252         0.43         0.11         73,196         18,725         91,920         -17,022         -20,427         0         7,660         -17,022 <th< td=""><td></td><td></td><td></td><td></td><td>85,112</td><td></td><td></td><td>-28,938</td><td>-3,404</td><td>0</td><td></td><td></td><td>4,256</td></th<>					85,112			-28,938	-3,404	0			4,256
2015         340,446,252         0.25         0.11         42,556         18,725         61,280         0         -20,427         0         7,660         0           2016         340,446,252         0.25         0.11         0.11         42,556         18,725         61,280         0         -20,427         0         7,660         0					73,196			-17,022	-20,427	0			-12,767
2016         340,446,252         0.25         0.11         42,556         18,725         61,280         0         -20,427         0         7,660         0         -0           2017         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -17,022         0         7,660         3,404           2018         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -10,213         0         7,660         3,404           2019         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -10,213         0         7,660         3,404           2020         340,446,252         0.23         0.11         39,151         18,725         57,876         3,404         -6,809         7,660         3,404           2020         340,446,252         0.23         0.11         39,151         18,725         57,876         -6,809         7,660         3,404           2020         340,446,252         0.23         0.11         39,151         18,725         57,876         -6,809         7,660					42,556			0	-20,427	0			-12,767
2017         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -17,022         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         7,660         3,404         -10,213         0         1,660         3,404         -10,213         0         1,660         3,404         -10,213         0         1,660         3,404         -10,213 <td>2016 340,446,</td> <td></td> <td></td> <td></td> <td>42,556</td> <td></td> <td></td> <td>0</td> <td>-20,427</td> <td>0</td> <td></td> <td></td> <td></td>	2016 340,446,				42,556			0	-20,427	0			
2018         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -13,618         0         7,660         3,404           2019         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -6,809         0         7,660         3,404           2020         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -6,809         0         7,660         3,404           2020         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         -6,809         0         7,660         3,404           2020         340,446,252         0.23         211,928         867,287         -6,809         7,660         3,404           2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         2020         202	2017 340,446,				39,151			3,404		0			-9,362
2019         340,446,252         0.23         0.11         0.11         39,151         18,725         57,876         3,404         -10,213         0         7,660         3,404           2020         340,446,252         0.23         0.11         39,151         18,725         57,876         3,404         -6,809         0         7,660         3,404           2020         340,446,252         0.23         0.11         39,151         18,725         57,876         -6,809         0         7,660         3,404           2020         340,446,252         0.23         0.11         39,151         18,725         57,879         -6,809         7,660         851         851           2020         340,446,252         0.23         0.11,928         867,287         -6,809         7,660         851         851				0.11	39,151		57,876	3,404		0			-5,958
2020       340,446,252       0.23       0.11       0.11       39,151       18,725       57,876       3,404       -6,809       0       7,660       3,404         2020       340,446,252       211,928       867,287       -6,809       7,660       851         2020       3404       -6,809       7,660       851       851				0.11	39,151		57,876	3,404		0			-2,553
655,359 211,928 867,287 -6,809 7,660 7,660 851 Point base -6,809 7,660 851	2020	0	O	0.11		18,725	928,73	3,404					
-6,809 7,660	Total				622,359		867,287	-6,809		7,660		851	
-6,809 7,660								-					
•			Difference	from base	9		851						

# ATTACHMENT D

#### Ameren MPS Base Annual Emission Rate Determination

2003	Heat Input	NOx Rate	NOx	SO2 Rate	SO2
Company	(mmBtu)	(#/mmBtu)	(tons)	(#/mmBtu)	(tons)
AEGC	158,452,698	0.259	20,527	1.14	90,117
AERGC	63,611,097	0.368	11,690	2.06	65,440
EEI	89,504,514	0.129	5,771	0.54	24,026
AER Illinois	311,568,309	0.244	37,988	1.15	179,583

2004 Company	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)	SO2 Rate (#/mmBtu)	SO2 (tons)
AEGC	171,427,867	0.242	20,710	1.06	90,532
AERGC	70,737,248	0.308	10,897	1.47	52,058
EEI	92,482,478	0.127	5,860	0.61	28,048
AER Illinois	334,647,593	0.224	37,467	1.02	170,638

2005	Heat Input	NOx Rate	NOx	SO2 Rate	SO2
Company	(mmBtu)	(#/mmBtu)	(tons)	(#/mmBtu)	(tons)
AEGC	160,864,003	0.230	18,494	1.04	83,905
AERGC	65,569,490	0.263	8,619	1.22	39,999
EEI	86,505,712	0.128	5,524	0.60	25,963
AER Illinois	312,939,205	0.221	32,637	1.01	149,867

Annual Average Company	Heat Input (mmBtu)	NOx Rate (#/mmBtu)	NOx (tons)	SO2 Rate (#/mmBtu)	SO2 (tons)
AEGC	163,581,523	0.243	19,910	1.08	88,185
AERGC	66,639,278	0.312	10,402	1.58	52,499
EEI	89,497,568	0.128	5,718	0.58	26,012
AER Illinois	319,718,369	0.225	36,031	1.04	166,696

# MPS Rates With Percent Limitation

NOx at 0.11 or 52% of baseline in 2012; 52% of baseline = 0.12 lb/mmBTU SO2 at 0.33 or 44% of baseline in 2013; 44% of baseline = 0.46 lb/mmBTU SO2 at 0.25 or 35% of baseline in 2015; 35% of baseline = 0.36 lb/mmBTU

## Illustration Of Amended MPS Rates With Percent Limitation

NOx at 0.14 or 65% of baseline in 2010; 65% of baseline = 0.15 lb/mmBTU NOx at 0.11 or 52% of baseline in 2012; 52% of baseline = 0.12 lb/mmBTU SO2 at 0.50 or 55% of baseline in 2010; 55% of baseline = 0.57 lb/mmBTU SO2 at 0.43 or 45% of baseline in 2014; 45% of baseline = 0.47 lb/mmBTU SO2 at 0.25 or 35% of baseline in 2015; 35% of baseline = 0.36 lb/mmBTU SO2 at 0.23 or 25% of baseline in 2017; 25% of baseline = 0.26 lb/mmBTU

# Calculated Percent Reduction From Baseline For Amended MPS

NOx at 0.14 = 38% reduction from baseline in 2010

NOx at 0.11 = 51% reduction from baseline in 2012

SO2 at 0.50 = 52% reduction from baseline in 2010

SO2 at 0.43 = 59% reduction from baseline in 2014

SO2 at 0.25 = 76% reduction from baseline in 2015

SO2 at 0.23 = 78% reduction from baseline in 2017

# Ameren MPS Base Seasonal NOx Emission Rate Determination

2003	Heat Input	NOx Rate	NOx
Company	(mmBtu)	(#/mmBtu)	(tons)
AEGC	71,819,229	0.159	5,706
AERGC	26,917,427	0.255	3,427
EEI	37,416,091	0.126	2,359
AER Illinois	136,152,747	0.169	11,492

2004	Heat Input	NOx Rate	NOx
Company	(mmBtu)	(#/mmBtu)	(tons)
AEGC	72,205,935	0.153	5,508
AERGC	30,512,335	0.180	2,750
EEI	30,951,063	0.126	1,956
AER Illinois	133,669,333	0.153	10,214

2005	Heat Input	NOx Rate	NOx
Company	(mmBtu)	(#/mmBtu)	(tons)
AEGC	77,068,042	0.146	5,614
AERGC	28,277,603	0.170	2,397
EEI	37,004,541	0.126	2,328
AER Illinois	142,350,186	0.147	10,339

Seasonal Average	Heat Input	NOx Rate	NOx
Company	(mmBtu)	(#/mmBtu)	(tons)
AEGC	73,697,735	0.152	5,609
AERGC	28,569,121	0.200	2,858
EEI	35,123,898	0.126	2,214
AER Illinois	137,390,755	0.155	10,682

# MPS Rates With Percent Limitation

NOx at 0.11 or 80% of baseline in 2012; 80% of baseline = 0.124 lb/mmBTU

# Illustration Of Amended MPS Rates With Percent Limitation

NOx at 0.11 or 80% of baseline in 2010; 80% of baseline = 0.124 lb/mmBTU

# Calculated Percent Reduction From Baseline For Amended MPS

NOx at 0.11 = 29% reduction from baseline in 2010