

CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 15th day of August, 2012, I have served electronically the attached MOTION FOR WAIVER OF PAGE LIMITATION and PETITIONER'S POST-HEARING BRIEF, upon the following persons:

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

AMEREN ENERGY RESOURCES,)	
)	
Petitioner,)	
)	PCB 12-126
v.)	(Variance – Air)
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

MOTION FOR WAIVER OF PAGE LIMITATION

Now comes the Petitioner, Ameren Energy Resources (“AER”), by and through its attorneys, and for its Motion for Waiver of Page Limitation for Petitioner’s Post-Hearing Brief before the Pollution Control Board (“Board”), states as follows:

1. Section 101.302(k) of the Board’s procedural rules states as follows:

Page Limitation. No motion, brief in support of motion, or brief may exceed 50 pages, and no amicus curiae brief may exceed 20 pages, without prior approval of the Board or hearing officer. These limits do not include appendices containing relevant material. 35 Ill. Adm. Code 101.302(k).

2. In order to fully and fairly present Petitioner’s variance request before this Board, Petitioner respectfully requests a waiver of the applicable 50-page limitation. The Board held a hearing in this matter on August 1, 2012. At that hearing, Hearing Officer Webb received questions from Board Members and heard oral public statements from nearly 100 people. In addition, the Board has received a voluminous 2,565 written public comments into the record to date. AER cannot adequately address the numerous questions, public comments, both oral and written, and the various issues raised in those questions and comments, in the 50-page limit provided in the Board’s procedural rules.

3. AER, therefore, moves this Board to grant a waiver of the 50-page limitation applicable to the Petitioner's post-hearing brief and accept the Petitioner's Post-Hearing Brief filed concurrently with this motion.

WHEREFORE, the Petitioner respectfully requests that the Pollution Control Board grant this motion for waiver and allow the Petitioner's post-hearing brief to exceed the 50-page limitation set forth in 35 Ill. Adm. Code 101.302(k).

Respectfully submitted,

AMEREN ENERGY RESOURCES, Petitioner.

By: 

Dated: August 15, 2012

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PETITIONER’S POST-HEARING BRIEF

On May 3, 2012, Petitioner filed with this Board a request for variance relief from both the 2015 and 2017 sulfur dioxide (SO₂) emission rate provisions of the Illinois Multi-Pollutant Standard (“MPS”), 35 Ill. Adm. Code § 225.233,¹ specifically the SO₂ emissions standards set forth in Section 225.233(e)(3)(C)(iii) and (iv). At the time of the filing, AER sought relief from Section 225.233(e)(3)(C)(iii) for five years beginning January 1, 2015, and ending December 31, 2019, and relief from Section 225.233(e)(3)(C)(iv) for four years, beginning January 1, 2017, and ending December 31, 2020.

AER has requested additional time to comply with the 2015 and 2017 SO₂ emission rates because, among other things, declining power market prices have resulted in an insufficient cash flow necessary to finance and maintain the construction completion schedule of flue gas desulfurization (“FGD”) equipment at the Newton Energy Center (“Newton FGD Project”). The installation and operation of the Newton FGD is necessary for the Ameren MPS Group to meet the 2015 and 2017 MPS emission rates. As described more fully in the petition and at hearing,

¹ Hereinafter, citations to the Board’s regulations will be by section number only.

AER comes to this Board now, in 2012, seeking the requested relief because the relief is critical from both a timing standpoint, as well as from a variance length standpoint. From a timing standpoint, coming before the Board now will allow AER to conserve cash flow and stave off draconian operational measures. From a variance length standpoint, the length of time of the relief period is critical to ensuring that the stability of the marketplace will have time to return thereby allowing the completion of the Newton FGD Project. Absent time to recover, AER will be left with no choice but to cease operations at additional energy centers as its only other viable compliance alternative. This point is worth repeating. Absent time to recover, AER will be left with no choice but to cease operations at additional energy centers as its only other viable compliance alternative. This is not an idle threat as has seemingly been suggested. The shuttering of plants is not a decision that AER, or any company for that matter, would chose as its “preferred” or “easy” option nor would AER or any other company, publicly announce such a possible consequence without exploring fully other compliance options. Indeed, the shuttering of any of AER’s plants would be a blow to the core of AER’s business and would be devastating to its employees, the local communities, equipment suppliers and contractors, state taxing authorities and already struggling local school districts. As Representative Phelps shared with the Board, “Joppa supports 164 well paying jobs for southern Illinois. You put that in perspective in Chicago, that’s like 10,000 some odd jobs in southern Illinois.” (Tr. 60). The additional time AER seeks due to hardship is necessary to allow recovery of the power market and the orderly planning, mobilizing and completion of the Newton FGD Project.

There has been much discussion in the written public comments as well as at hearing that AER should have foreseen or anticipated its hardship (Tr. 188, etc.) and should not, therefore, be able to rely on it now. AER struggles to respond to such hollow accusations in light of the wide

spread financial challenges seen throughout the world. AER has also tried to minimize the hardship it faces by instituting a variety of measures to conserve cash. AER further shuttered two of its energy centers so it could focus resources at its other operating units on the System. All of its efforts, however, could not prevent AER from having to choose its least-preferred approach to conserving cash through deceleration of the Newton FGD. As explained by Mr. Gary Rygh of Barclay's Bank PLC, "from an investor's perspective, it appears no one wants to complete the Newton FGD system project more than AER[G] itself". (Tr. 49). As presented, AER will continue various limited construction activities at the Newton Energy Center. By continuing limited construction activities, AER will be in a better position to respond quickly once power market prices, the economy and cash flows improve.

AER is only asking for relief that is absolutely necessary to get it through these trying economic times. In doing so, AER has been able to offer a compliance plan that provides a net environmental benefit with respect to SO₂ emissions. By agreeing to make SO₂ emissions reductions earlier than anticipated, AER will have emitted fewer tons of SO₂ than it would under the current terms of the MPS, resulting in a discernible benefit to human health. In response to comments regarding the impacts of SO₂ to human health, AER requested that expert analysis be performed addressing this issue and has attached it to this post-hearing comment for the Board's consideration.

I. RELIEF REQUESTED BY AER

In AER's petition filed with the Board on May 4, 2012, AER voluntarily offered to meet an overall annual SO₂ annual emission rate in 2012 through 2019 of 0.38 lb/MMBtu, declining to a rate of 0.25 lb/MMBtu by January 1, 2020 and 0.23 lb/MMBtu by January 1, 2021. (Pet. Pg. 8-9). Also as part of AER's compliance plan, AER must continue to burn low-sulfur coal from the

Powder River Basin and manage operations as necessary to maintain compliance. (*Id.*). Further, consistent with cash flows, AER will maintain a continuous program of construction at the Newton Energy Center so as to be in a position to have the Newton FGD Project completed and operational to meet compliance obligations. (*Id.*).

In its recommendation (“Recommendation”), the Illinois Environmental Protection Agency (“Agency”) proposed an alternative mitigation SO₂ emission rate of 0.35 lb/MMBtu to apply during the calendar years 2013 through 2019.² (Rec. 11). As explained in AER’s first and second set of responses to the Board’s technical questions, AER agrees to meet this revised SO₂ emission rate. AER also responded to the Illinois EPA’s request that the variance time period be shortened by agreeing to comply with the 0.23 lb/MMBtu beginning on January 15, 2020, rather than on December 31, 2020 as proposed in the Petition. The return to compliance with the 0.25 lb/MMBtu rate will remain on the date proposed by AER in its Petition (January 1, 2020). As explained in its Response to the Hearing Officer’s Questions dated July 30, 2012, and by Michael Menne through his testimony at the August 1 hearing, AER will comply with the more stringent SO₂ emission rate during the calendar years of 2013 through 2019 by operating flue gas desulfurization (“FGD”) systems at the Duck Creek and Coffeen Energy Centers at a higher level of control. Mr. Menne went on to explain that “[e]ven at those levels, [the] compliance margins remain very low and AER will need to employ operational strategies such as low sulfur coal procurement and generation utilization in order to comply with the proposed rate.” (Tr. 26). The 0.35 lb/MMBtu emission rate for SO₂ through calendar year 2019 also commits AER to not operate the Hutsonville and Meredosia Energy Centers during the pendency of the variance. None of these steps--maintaining the shuttering of Meredosia or Hutsonville, operating the FGD

² The Recommendation will be cited to as “Rec. at ___.”

systems at Duck Creek and Coffeen Energy Centers, procurement of lower sulfur coal—none of them, are required by the laws on the books today. (Tr. 26). Thus, in answer to the question posed by the Environmental Law and Policy Center (“ELPC”) “[i]f all those things are done now, how close does that bring the company to compliance with the [MPS]?”--the answer is an emission rate of 0.35 lb/MMBtu. (Tr. 119).

AER also wishes to confirm again its willingness to meet certain conditions as part of its compliance plan, should relief be granted:

1. AER agrees not to operate the Hutsonville or Meredosia Energy Centers for power generation purposes during the pendency of the variance; except that the FutureGen project which is currently proposed for the Meredosia Energy Center site is exempt from this restriction.
2. During the term of the variance, AER agrees to file progress reports with the Board and the Agency as to the status of construction activities relating to the Newton Scrubber annually by the end of each calendar year. Furthermore, in the event the completion of the scrubber project becomes financially infeasible, AER agrees to advise the Board and the Agency of alternative plans for compliance during the remaining term of the variance.

II. AER HAS MET ITS BURDEN AND IS ENTITLED TO RELIEF

Section 35(a) of the Illinois Environmental Protection Act (415 ILCS 5/35(a) (2010)) provides that, “[t]o the extent consistent with applicable provisions of the * * * Clean Air Act,” the Board may grant individual variances where it is shown that “compliance with any rule or regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship.” The petitioner bears the burden of proof. 415 ILCS 5/37(a) (2010).

Several public commenters stated during the course of the hearing that AER's variance request was somehow "unfair" since others would have to comply with the MPS. However, the Board created the variance procedure specifically to allow individual petitioners to seek temporary relief from rules of general applicability. The purpose of a variance has been stated many times by the Board and Illinois courts. The Appellate Court, citing to *Monsanto in City of Mendota v. Pollution Control Board*, 112 Ill. Dec. 752, 757, 514 N.E.2d 218 (3rd Dist. 1987), stated "[t]he variance provisions of the Act are intended to afford some flexibility in regulating the speed for compliance." The Appellate Court in *Celotex Corporation v. Pollution Control Board*, 65 Ill. App. 3rd 776, 22 Ill. Dec. 474, 382 N.E.2d 864, 866 (4th Dist. 1978), phrased the purpose as "[t]he issues in a variance proceeding focus upon whether compliance should be excused for a period of time." AER's decision to opt-in to the MPS was not an "agreement" or the "functional equivalent of a contract" as characterized by the ELPC advocating on its own behalf and that of Environment Illinois, Natural Resources Defense Council, Respiratory Health Association, and Sierra Club (collectively, "Citizens Groups") (PC# 2409, at 23), but rather a decision to be subject to one Illinois regulation as opposed to another. AER's request, accordingly, fulfills the purpose of the variance process and there is nothing "unfair" about asking for more time to comply. In fact, it is the responsible thing to do with respect to local and State economies especially given that AER's compliance plan offsets any potential adverse impacts to human health and the environment.

Given the temporary nature of a variance request, site-specific rulemaking analyses regarding environmental impact such as those raised by ELPC are not applicable. In post-hearing comments, ELPC cites to *Proposed Site Specific Rule Change for City of Mendota: 35 Ill. Adm. Code 306.304*, R88-6 (Apr. 6. 1989); *aff'd by City of Mendota v. PCB*, 192 Ill. App. 3d

704 (3rd Dist. 1990), but that comparison is without merit. The Board highlighted the inherent difference between granting a site-specific rulemaking and temporary relief in a variance proceeding by explaining that if the Board were to grant the relief, the proponent would have no incentive to investigate or pursue alternatives and “the potential for environmental improvement would be forfeited.” *City of Mendota*, R88-6, slip op. at 7. The same cannot be said for AER. With the short-term relief allowed under a variance, AER must continuously proceed towards compliance.

Also, as explained in more detail below, AER’s hardship is not self-imposed and simply cannot be likened to situations where the Board has found that the petitioners’ own business decisions led to noncompliance. ELPC cites to *Ecko Glaco Corp. v. IEPA*, 186 Ill. App. 3d 141, 150-51 (1st Dist. 1989), for an example of where the Board has found that a company’s own business decisions were responsible for its noncompliance. AER’s situation is inapposite. AER did not delay either in choosing a plan to comply with the MPS or in deciding to seek relief from the Board. AER committed to installing a wet FGD system at Newton to comply with the MPS. The project is now more than half complete. Within a few short months of the CSAPR stay and the sharp decline in power prices due to lowest demand in decades because of the recession, the exceptionally mild weather this past winter, and an increased supply of natural gas, AER knew it did not have the cash flows necessary to complete the Newton FGD project. The company petitioned the Board for more time which would allow it to continue to progress towards its goal at a sustainable rate. AER never “lacked a firm compliance plan,” or “lacked diligence in pursuing compliance” as the Board found in *Ecko Glaco*. To the contrary, AER acted swiftly and responsibly to ensure that it could remain in compliance *and* keep energy centers open.

AER has consistently provided a clear plan to bring it into compliance with the MPS requirements.

A. AER Has Demonstrated that it is Facing an Arbitrary and Unreasonable Hardship.

AER has explained more fully in its petition the circumstances that have led it to face the hardship it faces today. During 2012, the market prices for power collapsed, falling to levels not seen since 1978. (Pet. 19). The sharp decline in power prices is due to lower demand because of the recession, the exceptionally mild weather this winter, and an increased supply of natural gas from shale gas that has contributed to lower natural gas prices. Given these conditions, AER's financial health and access to capital have both been severely impaired and the current outlook for the next several years is no better. AEG's operating proceeds are now insufficient to fully fund large-scale capital projects, in particular the Newton FGD System. (Pet. at 21).

During the August 1 hearing, the ELPC offered Mr. Rob Kelter to testify as to the background of the Electric Service Customer Choice and Rate Relief Law of 1997 ("1997 Law") as it relates to AER's current position and AER's petition for variance. (Tr. 68). ELPC argues that the economic conditions and compliance obligations AER is facing today were somehow foreseeable in 1997 when the Electric Service Customer Choice and Rate Relief Law of 1997 was enacted. (Tr. 71). ELPC also contends that in transferring generation assets into merchants companies, Ameren took a calculated and knowing risk that deregulation would be advantageous to shareholders. (Tr. 70). In support, ELPC relies on a dated and irrelevant report created by the Citizens Utility Board ("CUB") in early 2006 to demonstrate that "lays out just how well Ameren performed." (Tr. 71).

1. AER's Hardship Was Neither Foreseeable Nor Self-Imposed.

AER's predecessors did not "seek" deregulation. PC# 2409, pg 30. Rather, it was one of the primary purposes of the Electric Service Customer Choice and Rate Relief Law of 1997 to, in fact, incent the utilities to move their generating plants into either affiliates or third parties, where they could no longer be controlled by the utilities and would, instead, compete in a wholesale power market to provide power to retail customers at prices determined by competition. The General Assembly intended to incent this change by enacting a streamlined process with reduced "tests," available only for a finite time period. Mr. Kelter's prior employer, the CUB, was a strong advocate for this outcome. The law was purposely crafted to encourage transfer by requiring limited approval requirements and making more onerous the decision to stay within the regulated entity. Why? Because the goal of the 1997 Law was to give customers significant rate relief—and that it did. Indeed, if the 1997 Law was enacted to provide the utilities with some advantage, it would be doubtful that CUB would have been the Law's champion.

Contrary to ELPC's assertion, the 1997 Law did not "facilitate Ameren's creation." (PC# 2409, pg. 30). CIPSCO Incorporated and Union Electric agreed to merge in 1995, had already filed for approval from the Illinois Commerce Commission under the pre-1997 Public Utilities Act, and were in the process of merging when the 1997 Law was passed.

Mr. Kelter overinterpreted the statutory language of the Public Utilities Act by pointing to the words "an electric utility may" in Section 16-111(g) and asserting that Ameren was not compelled by the deregulation legislation to effectuate the transfer of its generating plants. The phrase "an electric utility may" simply signaled that during the "mandatory transition period" created by the 1997 Law, an electric utility could transfer assets either by using the procedure created by Section 16-111(g), or by using existing procedures already in the Public Utilities Act

(and which had been used prior to the 1997 Law to obtain approval to transfer assets). The broader statutory picture missed by Mr. Kelter is that the General Assembly, by creating an expeditious process for transferring generating plants that would only be available for a limited, finite amount of time (the mandatory transition period), the 1997 Law intended to incent the electric utilities to divest their generating plants into wholesale power supply companies – which was one of the overriding structural changes that the 1997 Act was intended to foster, namely, the separation of generating plants from the regulated distribution utilities. While it is true Ameren was not compelled to effectuate this transfer, there was at the time a much greater incentive to do so than Mr. Kelter portrayed in this testimony.

In any case, AER does not argue it is the deregulated market alone that creates the hardship it now faces. Current economic conditions go beyond any price declines that were foreseeable when the 1997 Law was passed or even when the MPS was enacted in 2006. The new methods of gas extraction are a “game-changing” technology that have fundamentally altered the outlook for gas supplies and pricing. The general recessionary economic conditions have also depressed the demand for power and therefore power prices. Further, mandatory requirements that certain percentages of the total retail electric supply come from renewable resources, enacted in Illinois in 2007, have also reduced the demand for power from traditional sources, and consequently prices. In sum, the MPS was in fact premised on the expectation that the power market would continue to support the capital expenditures necessary to meet the proposed emission rates. Market conditions and new technologies and policies that have come about since that time were not self-imposed and simply not foreseeable. It is the convergence of these factors that amount to the arbitrary and unreasonable hardship AER now faces.

Nonetheless, AER does not, nor could it, seek to undo in this variance proceeding, the legislative mandate that resulted in a deregulation of power generation in Illinois. Rather, AER, in setting forth the realities of the marketplace in its petition for relief, is simply providing context for the financial hardship that it faces today, will face in the coming years, and to explain why creditors are unwilling to provide capital funding to merchant companies as compared to regulated utilities. AER further pointed out deregulation to explain why a funding mechanism of passing on the cost of pollution control equipment to the rate base is not possible for merchant plants.

2. The Retail Customers, Not the Power Companies, Have Been the Greatest Beneficiaries of the Deregulated Market Structure.

The 2006 study provided as Hearing Exhibit 2 was done before Illinois had established the current process for providing power to retail customers through the Illinois Power Agency Act (“IPA Act”) enacted in 2007. Prior to the IPA Act, AER could sell power to Ameren Illinois, for example, to use for Illinois retail customers at “frozen” retail rates. Since 2007, AER must compete with other power suppliers in wholesale bidding process run by the Illinois Power Agency in order to sell its power in Illinois.

The 2006 study was also done before 2007 legislation requiring Ameren to pay \$185 million in rate relief to customers and other payments. In 2007, Illinois electricity prices increased sharply. In response, General Assembly enacted Section 16-111.5A of the PUA, which specified that Ameren would provide \$488 million in rate relief (refunds or future reduced rates) to its retail customers over the 4-year period 2007-2010, with specific dollar amounts of rate relief provided in each year as stated in the statute. (220 ILCS 5/16-111.5A(f)). Through separate agreements, the Ameren utilities were reimbursed a majority of this amount. Ameren’s unaffiliated generating and energy marketing companies (including AER) had to provide \$85.5

million of the amount, and Ameren utilities were responsible for the balance of \$95 million. The statute expressly provided that none of the \$488 million could be recovered through rates charged to customers. The statute also provided that a group of generating companies, including AER, would provide \$25 million to the State to be used, essentially, as start-up funding for the IPA, of which the Ameren generating companies share was \$4.5 million. Therefore, in total, the Ameren companies were required to pay \$185 million ($\$85.5 + \$95 + \4.5). The CUB study depicts Ameren's financial results purportedly due to deregulation as of 2006 but fails to include the impact to Ameren of subsequently having to provide \$185 million in rate relief to customers and other payments as the result of the 2007 legislation. Again, since 2007, it is the retail customers in Illinois who are the great beneficiaries of the market structure in Illinois following the 1997 and 2007 acts--not the power generators like AER.

Moreover, projections from a 2006 study of the 1997 rate relief law done before Illinois established the current process for providing power to retail customers through the Illinois Power Agency Act enacted in 2007 simply have no bearing on the ability of unregulated companies such as AER to operate profitably. Ameren's stock traded in the \$50 to \$54 range at the end of 2007. Today it hovers around \$34. As the chart below clearly reflects, Ameren stockholders have not seen growth due to investment in unregulated generation.



AEG’s return on equity in 2011 was 4.3% and for 2010 it was -3.9%. AER’s assets are not paying returns, and there is currently uncertainty about when the economy will recover and AER’s current financial predicament will improve. As a merchant generator, “it has significant exposure to market prices, swings in load demand and commodity price volatility.” (Tr. 46). Current power market conditions remain depressed.³ “As it now stands, AEG’s credit quality is poor” (Tr. 47) and investors simply do not place funds into assets that have no prospects for repayment.

³ There are three large fossil electric generating unit (EGU) systems in Illinois. Dynegy filed for bankruptcy protection on July 6, 2012 (*Dynegy Files for Bankruptcy as Part of Settlement*, Azam Ahmed, New York Times, July 6, 2012) and press reports indicate that Midwest Generation may soon follow. *Illinois coal plant owner weighs Chapter 11*, Julie Wernau, Chicago Tribune, July 31, 2012.

3. *Ameren Corporation Will Not Support the Capital Needs of AER.*

As both Mr. Ryan Martin and Mr. Gary Rygh described, neither the \$500 million revolving credit facility that it shares with its parent nor the “Put Option” Agreement provide any financial haven or support for completion of the scrubber project. It is important to note that the \$500 million revolving credit facility is due to expire in the middle of 2013. (Tr. 51). This credit facility, however, much like the Put Option Agreement, serves as a source of liquidity and is not put in place for purposes of funding long term projects like the FGD project. Even if you ignore the purpose of the revolving credit facility, however, anything borrowed by AEG must be repaid upon expiration of the facility. AEG simply is not in a financial position to do so. Further, the Put Option Agreement was put in place “effectively [as] a replacement for some form of liquidity when the current facility expires.” (Tr. 51). As Mr. Rygh went on to explain, the “Put Option” is basically “just an emergency rainy day fund” so there is “some semblance of liquidity there.” (Tr. 51).

Lastly, the Office of the Illinois Attorney General (“Attorney General”) criticizes Ameren Corporation’s decision to require its subsidiaries to “stand on its own in terms of maintaining a viable cash flow” and attributes such a policy to “investor relations motivations.” (Tr. 90). These statements demonstrate a misunderstanding of parent/subsidiary corporate relationships and are simply unfounded. Ameren Corporation owns the common stock of its subsidiary companies. It does not directly operate any of its business units and therefore cannot, on its own, generate revenue. In order for Ameren Corporation to act as an ongoing funding source to AER that cash flow would need to come from an operating unit such as one of the regulated utilities. The subsidization of merchant generation by a regulated utility such as Ameren Illinois Company would most certainly be challenged and criticized by the Illinois Commerce Commission and the Attorney General. Further, the rates of regulated utilities are set under

traditional regulation to recover only the operating and capital costs of those regulated utilities. Lastly, the “severe negative reaction would adversely impact Ameren Corporation’s own credit quality and access to capital.” (Tr. 47). Ameren Corporation must balance the credit and lending needs of all its businesses, and similar to third party lenders, it cannot assume additional unsecured debt on behalf of AER where there is not a secure revenue stream to support such an obligation. (Pet. 22).

B. AER has Considered all Feasible Compliance Alternatives and Costs.

To comply with the 2017 MPS emission rate, AER estimates that it must reduce emissions by approximately 16,000 tons. The installation of two scrubbers at Newton would reduce emissions by approximately 17,500 tons of SO₂. No other commercially available technology produces that level of removal efficiency. Furthermore, it is important to note that compliance with the MPS SO₂ and NO_x requirements is based on a system average basis. Accordingly, when approaching compliance on a system-wide basis, the most economical and effective approach is to control the larger units first. That is the exact approach used by AER.

AER has evaluated a series of technologies under a myriad of potential state and federal compliance scenarios. Third-party engineering firms such as the Shaw Group were retained to assess the viability of dry sorbent injection at the Joppa Energy Center. In 2011, AER retained URS Consulting to perform Air Quality Control Technology (AQCT) assessments on the cost and appropriateness of a host of technologies at Joppa and E.D. Edwards Energy Centers. Each plant has unique site characteristics that must be considered when assessing the feasibility of retrofitting a facility with pollution control technology. The cost of installing DSI plus fabric filters at Joppa (6 units) and E.D. Edwards (2 units) was \$433 million and \$280 million, respectively. A cost table from the URS report is appended hereto as **Exhibit 1**.

Contrary to the Attorney General's and ELPC's conclusory assertions, AER has considered all viable compliance alternatives. The measures suggested by the public commenters are either (a) ineffective because they do not allow AER to achieve compliance with the MPS emission standards and/or trigger excessive co-pollutant emissions and requiring costly additional controls; or (b) would affirmatively worsen AER's financial predicament. The technological and operational measures proffered by ELPC and the Attorney General are discussed below.

Curtailment of Generation. Coal plants have extraordinarily high fixed operating costs due to around-the-clock operations and the need to continually maintain equipment and manage coal inventory and daily shipments. As has been explained in AER's petition, in response to questions posed by the Board and at hearing, while curtailing generation does reduce emissions, it also siphons off AER's sole source of revenues which are derived from the sale of power. Indeed, the de-rating of a unit means less power to sell, less revenue generated, and therefore reduces the amount of cash available to cover AER's fixed operating costs to run the units in the first place. Significant curtailment of generation under any market circumstance would exacerbate the precarious financial condition of AER in that insufficient cash flow would be generated to cover needed and certain operating costs. However, even faced with this reality, AER did evaluate the viability of reducing operations at the Newton, E.D. Edwards, and Joppa Energy Centers at varying degrees. That evaluation revealed that in order to comply with the MPS SO₂ emission rates, AER would need to lower capacity factors on such units to between 22% and 38%.⁴ In such scenarios, fixed operating costs would essentially remain the same

⁴ Target utilization for the AER system is between 80 and 90%. Recessionary conditions have lowered such system utilization to between 65 to 75% (not including specific unit outages).

because the units are still operating, even as generating levels are reduced. The result was as suspected: negative cash flow and an inability to fund ongoing operations. In fact, the curtailment of operations puts AER as a whole in greater financial peril than unit or plant shuttering thereby jeopardizing the system's viability and resulting in greater job loss. Operational curtailment is simply not a viable compliance alternative. In this power market and under the regulatory landscape, if relief is not granted AER's only viable option to maintain compliance would be to take one or more energy centers out of operation. The Attorney General should note this reality is supported by affidavits in the record.

Optimization of Scrubber Performance. AER has and continues to implement operational measures to reduce emissions. **AER has been doing this voluntarily at a cost even prior to coming to this Board to ask for relief.** (Tr. 39). Further, as a part of AER's proposed compliance plan, the operation of FGD systems at the Duck Creek and Coffeen Energy Centers will have to be fully maximized in order to maintain compliance on a system-wide basis with the proposed mitigation rate of 0.35 lb/mmBTU. The removal efficiencies for these FGD systems will range between 98-99%.⁵ Even at those high removal efficiency levels, compliance margins remain narrow and AER will need to employ additional operational strategies such as low-sulfur coal procurement and reduce generation utilization as needed to comply with the proposed mitigation emission rate. (Tr. 26). Mr. Gignac's testimony at hearing seems to imply that this commitment had not been made by AER. (Tr. 88). AER is not sure what more can be asked of it when it is committing to a rate that requires maximization among other things to maintain compliance.

⁵ See page 8 of AER's First Set of Responses for the associated capital and operating and maintenance costs associated with achieving and maintaining such high FGD removal efficiencies.

Alternative Technology – Dry Scrubbers. In its post-hearing comments, the Attorney General appears to confuse dry scrubber technology with Dry Sorbent Injection (“DSI”) and seems to suggest that AER has failed to consider properly both technologies. As described more fully below, DSI has comparatively low capital costs (approximately \$19 million) because relatively minor pieces of equipment are needed to feed the sorbent material into ductwork. In contrast, a dry scrubber requires the construction of multi-storied building and spray tower to house equipment that “treats” the flue gas before it leaves the stack. The cost of wet FGD systems installed at Duck Creek and Coffeen total \$258 million for one unit at Duck Creek and \$568 million for the two units at Coffeen. Wet FGDs allow for greater chemical reactions and have a higher removal efficiency. As a result, wet FGDs can accommodate the use of a variety of coals including the higher sulfur content found in Illinois basin coal. Dry scrubbers have removal efficiencies in the low 90% range and therefore are typically used with low sulfur Powder River Basin coal. The Joppa facility’s configuration consists of six units whose flue gas is routed through three separate stacks. To achieve reductions approaching those projected for the Newton FGD project, AER would need to install 6 dry scrubbers at Joppa at an estimated cost of \$460 million.

Further, the United States Environmental Protection Agency (“USEPA”) recently finalized federal requirements regarding mercury and hazardous gases. Dry scrubbers may be ineffective in addressing hazardous gas emissions and, without additional add-on controls, could adversely impact particulate emissions. The cost of constructing a dry scrubber system at Joppa would be nearly twice the cost of completing the FGD project at Newton. Clearly, the use of dry scrubbers at Joppa is neither the best economic or environmental alternative for complying with the MPS.

Alternative Technology - Dry Sorbent Injection. Both the Attorney General and the ELPC believe that AER has not given DSI adequate consideration as a compliance alternative. Specifically, ELPC suggests, through the public comment of Professor Kimberly Gray, that “dry sorbent injection (DSI) is an economically feasible strategy to reduce SO₂ and other acid gases” at the E.D. Edwards and Joppa Energy Centers. (Tr. 119, 120). ELPC also relies upon a DSI study report performed by the Shaw Group⁶ at the Joppa facility (an abbreviated version of the report was provided to the Agency as part of a construction permit reporting requirement). However, neither ELPC nor the Attorney General adequately account for the impact that such pollution control technologies would have on pollutants *other than* SO₂. Specifically, due to the size of the existing particulate control equipment and the use of ACI for mercury control, the use of DSI would result in a significant increase above threshold levels of PM. Accordingly, additional controls (and capital expense) would be needed to reduce PM emissions. We explain further below.

DSI is a process by which chemical materials are injected into the flue gas stream of a boiler. The injection of calcium or sodium sorbent reagents can occur directly into the boiler furnace or into duct work location near a component called an air heater. Both types of sorbents have been tested on Ameren’s Illinois and Missouri units. Calcium based reagents were deemed ineffective for SO₂ removal at tested load levels at Hutsonville. Sodium re-agents were used at

⁶ In the report submitted to the Agency, Joppa included only those portions (31 pages) necessary to support the reporting conditions set forth in the construction permit. (Final Report dated September 24, 2010) Appended hereto as Exhibit 2 is the complete Executive Summary of the Shaw Group Report (55 pages; Tables 2-1 through 3-29). The Executive Summary addresses the potential compliance and permitting issues associated with DSI and the impact on particulate emissions and ESP performance. It also recommends additional assessments and studies. The complete version of the report includes Trona test data and calculations supporting the test program that total well over 1,000 pages. AER did not submit this data due to the volume, but will do so at the Board’s request.

the Joppa Energy Center and resulted in 50% SO₂ reductions at tested load levels. However, AER's preliminary permitting analysis reflects that the use of such materials in the quantities required to comply with the 2015 and 2017 SO₂ emission rates would exceed applicable particulate requirements thereby triggering significant additional capital and maintenance expenses to address such emission requirements.⁷

Professor Gray, the ELPC and the Attorney General simply ignore and therefore understate the significant annual operating and maintenance ("O&M") costs associated with DSI. (In fact, other than noting the cost differential between types of sorbents, Professor Gray provides neither capital nor O&M cost estimates as part of her public comment). The Shaw Group Report (attached as Exhibit 2) provides estimated **annual** cost of dry sorbent ranging from \$15 million to \$44 million depending upon the type of material used and the location of injection (before or after the air heater):

⁷ Professor Gray acknowledges that "some modifications of existing ESPs may be required, such as changing the location of the combustion air preheater" or installing high frequency power upgrades. Neither the cost of such plant modification nor DSI's attendant ash disposal costs appear to have been included in her "economically feasible" assessment.

Dry Sorbent	Injection Location	Dry Sorbent Cost (\$/ton)	Lb SO₂ removed per lb of Dry Sorbent	Yearly Cost of Dry Sorbent (1)
Un-milled Trona	Before Air heater	\$ 175	0.093	\$ 23,483,829
Milled Trona	Before Air heater	\$ 175	0.10	\$ 21,839,961
Milled Trona	After Air heater	\$ 175	0.049 (2)	\$ 44,571,349 (2)
SBC	Before Air heater	\$ 200	0.16 (3)	\$ 15,599,972 (3)
SBC	After Air heater	\$ 200	0.12	\$ 20,799,963

Additional O&M costs would be required to address disposal related and material handling costs. On the AER system, the use of DSI is not a “cheap and easy” compliance alternative.

As the sorbent is exposed in the flue gas, it reacts with the SO₂ to form dry particles which are captured and removed as the gas stream passes through pollution control devices called electrostatic precipitators (ESP). The ESPs at Joppa and E.D. Edwards were designed and constructed more than forty years ago. While the ESPs have been maintained over time, it is the original sizing of the ESPs that greatly impacts its performance capability. In fact, due to the size of the ESPs at Joppa, and while DSI resulted in a 50% reduction of SO₂, it also triggers PSD permitting requirements if the sorbent injection rate exceeds 10%.⁸ The Shaw Group Report specifically notes in the Executive Summary and Section 3.4.2, that DSI will trigger PSD permitting requirements for particulate matter (see Tables 3-25 through 27). The next step in the Shaw Group Report, as outlined in the Executive Summary and in Section 4.2 Recommendations, references the need to evaluate helper ESPs or a fabric filter (baghouse) (see

⁸ Based on this assessment and the size of the ESPs at Edwards, PSD concerns would also be similarly triggered at comparable injection rates at that facility.

Table 3-28). In contrast to Professor Gray who bases her opinion largely on a literature review, the Shaw Group Report is site-specific to Joppa.

As a result of the MPS mercury requirements, in July 2009, ACI systems were installed at virtually every non-scrubbed unit in the fleet. Just as there is a limit to the particulate loading a house furnace filter can absorb, the same is true with the ESPs at Joppa and E.D. Edwards. Accordingly, due to the size of the ESPs and the use of ACI, the injection of additional reagents from a DSI system results in additional mass loading and would overwhelm the current effectiveness of the ESPs. To comply with both the SO₂ and PM emission limits applicable to these facilities, AER would need to install additional particulate controls such as a fabric filter.

The Shaw Group observes in Section 4.1. Conclusions as follows:

“[t]he addition of DSI will increase the amount of particulate matter leaving the stacks. The Joppa facility will trigger PSD due to injection of dry sorbent and DSI material handling unless the control efficiency of the existing particulate control is increased.”

ELPC, apparently in possession of an abbreviated version of the report, has taken out of context two sentences from the Shaw report. As Shaw makes clear, “[s]ignificant modifications to the plant’s ESPs would be required to limit the additional particulate emissions.” Shaw Group Report, Section 3.4.1, pg. 37.

In addition, due to the sodium reagents solubility in water, the resulting waste stream would exceed effluent limits and therefore could not be routed through the existing ash pond water treatment system. Accordingly, particulate material from the ESP would need to be disposed of in permitted landfills. Such operational and associated capital costs would include the use of storage silos, transportation and landfill expenses. Shaw Group Report, Section 4.1.3, pg. 54. The comments provided by ELPC simply ignore the total cost associated with the use of DSI. The total cost of installation of DSI systems at E.D. Edwards and/or Joppa, along with the

attendant costs required to address corresponding increases in particulate matter emissions and ash disposal and O&M, would exceed the approximate \$200 million to \$250 million needed to complete the scrubber at Newton.

AER's Proposed Mitigation Rate Incorporates a Multitude of Compliance Alternatives. AER's proposed mitigation rate of 0.35 lb/mmBtu SO₂ imposes significant restrictions on the management of the business. The scrubbers at Duck Creek and Coffeen will need to be operated at maximum levels and ultra-low sulfur coal and PRB coal will need to be procured on an ongoing basis. In addition to these measures AER has evaluated, through the use of production modeling, the impact of DSI and operational curtailment. Even with the above measures and the use of DSI at Joppa operated at a 50% removal efficiency and the retirement of one unit at Edwards, the overall system rate is estimated to be 0.28 lb/mmBtu SO₂ emission rate, **above** MPS requirements for 2015 and beyond. This alternative is not deemed viable because (a) it does not result in compliance; and (b) it would increase emissions associated with PM and require additional capital expenses needed to address those emissions. Such expenditures would be equivalent to that needed to complete the scrubbers. In short, there is no cost effective or otherwise viable alternative that "minimizes the deviation."

Natural Gas. ELPC seemingly suggests that conversion to natural gas may be a viable compliance alternative. (Tr. 118). AER has performed a screening analysis with respect to the feasibility of natural gas conversion of E.D. Edwards and Joppa Energy Centers as a compliance alternative to the MPS. That assessment however, is preliminary in nature and ongoing. The conversion of a generating facility from coal to gas combustion represents a fundamental and permanent change in business operation. Under current market conditions, natural gas conversion at Joppa would adversely impact the current capacity levels and current operating

regime of this facility would be reduced to the point where it would operate on a seasonal basis only.⁹ The resulting drop in utilization would reduce the revenue that AER is able to generate to cover fixed cost at this facility and across the system. It also would result in a reduction in workforce.

Before such a decision could be properly made, detailed engineering and operational assessments would need to be evaluated under a range of technical and economic variables. (URS provided an order of magnitude estimate of \$634 million to convert the Joppa plant to a combined cycle facility.) In addition, while natural gas pipeline facilities exist in the vicinity of Joppa, it is unknown whether there is sufficient transport capacity on such pipeline. With respect to the E.D. Edwards Energy Center, natural gas pipelines are not located within the vicinity of plant and the cost of developing such pipeline infrastructure is simply prohibitive. Lastly, the conversion of a facility to gas greatly reduces existing staffing levels and would have corresponding adverse impact on local communities. For example, at Grand Tower, AER employs a handful of people to run the energy center.

Coal procurement. The Attorney General questions whether AER could “provide sworn testimony that it has fully procured the lowest sulfur coal possible.” (Tr. 88). AER expects to burn approximately 15 million tons of coal per year. AER buys coal on a portfolio-wide basis for all of its Illinois facilities. Coal procurement is a continual process whereby fuel contracts roll off and are replaced on a staggered timeline. The proposed SO₂ mitigation emission rate of

⁹ Traditionally, AER’s natural gas combustion turbine generator (“CTG”) fleet operates at very low capacity factors. In 2011, Grand Tower operated at a 21% factor while the rest of the CTG fleet (Elgin, Gibson City and Joppa) were at 3%. In 2010, Grand Tower was at 4% with the remainder of the fleet at 3%. The extreme heat this summer resulted in an increase of utilization through July at Grand Tower (62%) although those capacity factors were not seen across the rest of the fleet (2%). If natural gas were economical and market conditions favorable, these facilities would operate more frequently.

0.35 lb/mmBtu will require more than careful management and execution of coal purchases. As part of its compliance strategy, AER will direct the higher sulfur coals (*i.e.* Illinois Basin at 6.2 lb/mmBtu and PRB a 0.8 lb/mmBtu) to its Duck Creek and Coffeen facilities. The FGD systems at these facilities will remove the higher sulfur content contained in these coals from the flue gas prior to leaving the stack. The premium ultra-low sulfur coal (*e.g.* 0.55 lb/mmBtu) will be used at the E.D. Edwards, Joppa and Newton facilities.

To comply with an SO₂ rate of 0.35 lb/mmBtu, AER will limit the use of Illinois Basin coal (roughly 6.2 lb/mmBtu.) and the higher SO₂ content Powder River Basin Coal (roughly 0.8 lb/mmBtu) to the Duck Creek and Coffeen Energy Centers. Ultra-low sulfur coal (0.55 lb/mmBtu) will be used at the Edwards, Newton and Joppa Energy Centers. AER currently has 17 million tons of ultra-low sulfur coal under contract through 2014.¹⁰

C. AER Crafted its Relief to Provide a Net Environmental Benefit

With respect to variance relief, Section 104.204 (g)(3) of the Board rules requires AER to describe “*the measures to be undertaken during the period of the variance to minimize the impact of the discharge of contaminants...*”. AER has proposed a compliance plan that exceeds that objective. Specifically, AER has proposed a mitigation emission rate of 0.35 lb/mmBtu that would take effect in 2013, resulting in the reduction of SO₂ emissions earlier than required by the MPS. As a result, AER has exceeded the legal standard of “to minimize the impact,” AER has **offset** the impact resulting in a **net** environmental benefit. The Agency concurs:

The Illinois EPA agrees with petitioner that there will be a net environmental benefit if the Board were to grant the requested relief subject to the terms and

¹⁰ Coal producers have assessed a price premium ranging from 5 to 20% over the standard 0.8 lb/mmBTU SO₂ PRB coal depending upon the market for the base price and SO₂ allowance pricing.

conditions contained herein. The Illinois EPA does not believe that any environmental harm would result therefrom. (Rec. 22).

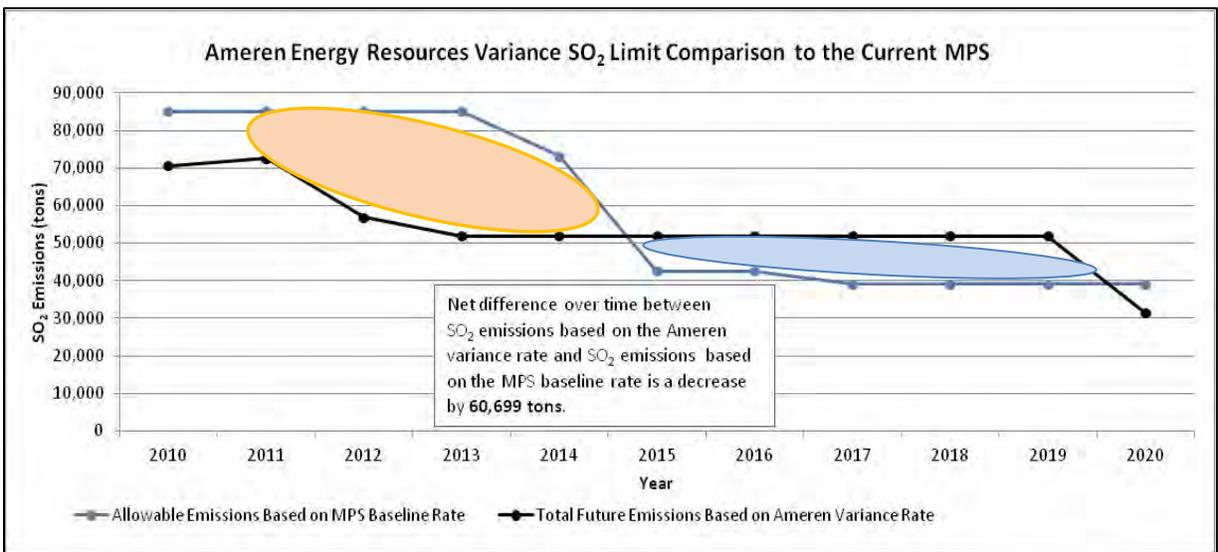
Over the course of the entire variance period, between now and 2020, the total tons of SO₂ reduced in the atmosphere will be greater if the variance is granted than if it is not. The mitigation emission rate ensures that AER (a) cannot resume operation of coal-fired power plants shut down late last year; and (b) must maximize removal efficiencies from existing pollution control devices and to procure low sulfur coal to maintain compliance. In response to questions from the Board, AER has demonstrated this net environmental benefit by both including Hutsonville and Meredosia in the calculation (Table 3) or excluding those facilities (Table 4). Under either scenario, a net environmental benefit exists.

In order to respond more completely to questions presented at the August 1, 2012 hearing, AER requested an independent review of the AER's variance request and potential health effects relating to SO₂ emissions. AECOM Senior Consulting Toxicologist Lucy Frasier, Ph.D. and Senior Toxicologist Lisa Bradley, Ph.D prepared a letter report analyzing the potential health effects of SO₂ from the requested variance ("Letter Report"), attached hereto as Exhibit 3. Dr. Frasier obtained her Ph.D. in toxicology from the University of Texas, Austin. She has 21 years of experience in the areas of human health risk assessment, with a specialization in the conduct of human health assessments for toxic air pollutants and persistent organic pollutants. Dr. Frasier has acted as Health Risk Assessment Team Leader or Project Manager for numerous human health and ecological risk assessments of air pollutants emitted from facilities including power plants. Because of this experience, she was invited to develop USEPA training materials on various aspects of the U.S. National Emissions Standards for Hazardous Air Pollutant (NESHAPs) regulations for Hazardous Waste Combustors and to teach the site-specific risk

assessment component of the training in 2008. These are only a few of her extensive qualifications and accomplishments in the field of toxicology.

Dr. Bradley has 25 years of experience in risk assessment and toxicology and is certified by the American Board of Toxicology. Dr. Bradley received her Ph.D. from Massachusetts Institute of Technology. She has managed risk assessments for numerous hazardous waste sites in many USEPA regions, and under many state programs. These are also just a few of her array of qualifications, awards, and accomplishments in the field of toxicology.

The figure below from the AECOM toxicology report illustrates AER's projected SO₂ emissions under the provisions of the MPS and the SO₂ variance.



The blue line represents AER's baseline emissions under the MPS and the black line represents emissions under the SO₂ variance. As can be seen in the figure, AER's emissions under the SO₂ variance are considerably lower than the MPS emissions between 2012 and 2014 and are slightly higher from 2015 to 2019. However, the area representing the difference between the MPS and SO₂ variance emissions is larger than the area between the MPS and SO₂ variance emissions illustrating the greater reductions of SO₂ earlier in the variance period. Overall, there is a net reduction in SO₂ emissions under the variance.

The regulatory language does not say, as suggested by the Attorney General, that AER must “*minimize the deviation* [from the applicable regulation]”. (Tr. 85, PC# 2240, pg. 5). Notably, the Attorney General provides no legal authority that requires or recognizes such a suggested regulatory standard. At any rate, a complete offset of emissions more than satisfies the standard articulated in the regulations and applied by the Board in other variance proceedings. The Attorney General’s concept of “excess” emissions is equally flawed. (PC# 249, pg. 1, 3, 5, 7). If the variance were granted, a new stringent emission rate would be temporarily substituted for the regulatory rate. “Excess” implies unauthorized. AER is seeking authorization. Lastly, in its tabulation of “excess” emissions, the Attorney General completely ignores emission reductions that will commence immediately and takes issue (again, without citation to any legal authority) with the concept of the “offset” of emissions. However, as the Agency noted in its Recommendation:

In regard to concerns about whether emission reductions due to shutdowns should be allowed to offset potential delays in emission decreases and/or emission increases, it is important to note that providing credit for actions (e.g., unit shutdowns) that result in emission reductions is an acceptable part of the established regulatory process. As an environmental regulator, Illinois EPA is accustomed to recognizing and allowing such reductions to offset potential emission increases under the New Source Review and Prevention of Significant Deterioration permitting regulations. (Citation omitted). The Illinois EPA believes that is the requested relief if granted under the terms and conditions contained herein, the emission reduction offsets that Petitioner is seeking are creditable and allowable. (Rec. 21).

D. AER’s Commitment To Shutter Hutsonville and Meredosia During the Variance Period is Real and Meaningful.

There is no real dispute that the closures of Meredosia and Hutsonville have an environmental benefit. Rather, ELPC in public comments believes that such emission reductions should not be considered by the Board in reviewing the merits of AER’s variance petition.

(PC#6). The Hutsonville and Meredosia Energy Centers are fully permitted and could lawfully reopen. Furthermore, such status is not compromised by the FutureGen project as is seemingly suggested at the August 1 Hearing. (Tr. 121). FutureGen project planning is still underway, and can be characterized as being at its very early stages. There will be years of work ahead before that project can be considered a reality and it therefore, would not impact operations at Meredosia during the years covered by the variance period.

Despite its ability to lawfully reopen these plants, AER does agree not to operate the facilities during the pendency of the variance period as a condition of the relief granted. As pointed out in the Agency's Recommendation, "there is currently no regulatory requirement for Meredosia or Hutsonville to remain shut down" and that AER makes this commitment in spite of the associated constraints and operating requirements necessary to mitigate any potential negative environmental impacts resulting from the variance. (Rec. 19, 21). AER's commitment is real, with real benefits to the environment.

The commitment is especially real when you consider AER's commitment to a lower mitigation rate during the pendency of the variance relief. The overall annual SO₂ emission rate from the Ameren MPS Group in 2011, prior to the closure of the Meredosia and Hutsonville Energy Centers, was 0.46 lb/MMBtu. To calculate an estimated 2012 emission rate based on comparable utilization of the fleet, AER used 2011 as a baseline and removed the contributions of the Hutsonville and Meredosia Energy Centers from the SO₂ emission rate. AER used this methodology to calculate the annual SO₂ emission rate after the closure of the Meredosia and Hutsonville Energy Centers as 0.40 lb/MMBtu. Many assumptions are needed to predict emissions and utilization in the future, so AER chose the last actual compliance period to illustrate the reduction achieved by not operating those plants. As noted, even with maintaining

the closure of these two plants, AER will still need to do more to meet the 0.35 lb/MMBtu emission rate. Presented differently, AER cannot achieve the mitigation emission rate without maintaining the current shuttering status of the plants and running the scrubbers harder during the calendar years of 2013 through 2019.

Further, putting aside the clear case that the commitment made with respect to Hutsonville and Meredosia is real, the fact is they are shut down and the benefit to the environment resulting from those shutdowns is meaningful. Why shouldn't AER be able to recognize the benefit? The MPS was based on these two energy centers operating and now they are not. Throughout the hearing commenters focused on the increase in SO₂ emissions that would result during the years of 2015-2019 as opposed to what would be allowed under the MPS. (Tr. 86). These same commenters, however, conveniently ignore the SO₂ emissions that would have been allowed under the MPS *without* the variance and its compliance plan and *without* the shut downs of Hutsonville and Meredosia Energy Centers. (Tr. 86). Indeed, this approach to environmental benefit seems to be a case of "wanting your cake and eating it too" and should be dismissed as unfair.

E. AER has "Walked the Walk" with Pollution Control Investments and Technology Advancements.

As Mr. Menne testified at hearing on August 1, 2012, AER has achieved a steady and significant decline in SO₂ emissions across the fleet--79% since 1990 and 23% over just the last four years. (Tr. 15-16). AER has achieved these reductions through a number of investments in pollution control equipment and continuing efforts to improve and maximize efficiencies and operating performance. With respect to NO_x, AER likewise achieved a steady and significant drop in NO_x emissions since 1990. (Tr. 16). A key element of these reductions is that they occur despite a significant increase in coal utilization at these power plants over the years. (*Id.*).

ELPC and several public commenters have criticized AER's environmental efforts and suggest that the company had taken a "no investment" approach. (Tr. 130, 200). This could not be further from the truth. As explained in the petition and at hearing, AER has spent over \$1 billion on pollution control equipment across the fleet. (Pet. 17, 18; Tr. 16). Specifically, in order to meet the MPS, AER has already installed scrubbers on three of its generating units at a cost of over \$813 million and has started construction of the fourth and fifth at a cost of over \$237 million. (*Id.*). For the scrubbers that have been installed, AER has been voluntarily operating those scrubbers at an SO₂ removal efficiency much greater than necessary to meet the current MPS and Federal requirements. (Tr. 17). As previously explained, maximizing the scrubber operations at Duck Creek and Coffeen will be required in order for AER to meet the mitigation rate of 0.35 lb/MMBtu proposed by the Agency and accepted by AER if the relief is granted. In addition, selective catalyst reduction equipment to reduce NO_x emissions has been installed at three of AER's plants at a cost of over \$177 million. (*Id.*). Operating costs total over \$7 million annually for this equipment. (*Id.*). AER has also advanced mercury reduction. AER has installed activated carbon injection technology ("ACI") on 12 units at four plants at a capital cost of well over \$20 million with operating costs totaling about \$17 million to date. (*Id.*). AER continues to test and evaluate a number of methods to enhance mercury removal. Most of the AER generating units are very close to meeting the Federal mercury standard established in the recently issued Mercury and Air Toxics ("MATS") regulations. (*Id.*). Newton Unit 2 currently meets the MPS mercury control requirements—which will be more stringent than the Federal standard-ahead of schedule. (Tr. 17-18).

In fact, investing in pollution control equipment on its system was exactly what AER was doing when it began the construction of the new scrubber at our Newton Energy Center. Even

though AER knew the forecast was looking grim, AER committed the capital dollars to begin the very costly installation of the scrubbers in order to be prepared to meet the very stringent 2015 MPS SO₂ rate. (Tr. 18). Set forth below is a chart that details the various pollution control devices installed at the Coffeen, Duck Creek, E.D. Edwards, Joppa and Newton Energy Centers. As the chart reflects, the suite of SO₂, NO_x, mercury and PM controls across the system is extensive. Capital investments were made even as the economy and market conditions eroded. AER has complied with all the mercury and NO_x requirements set forth in the MPS. Furthermore, if variance relief were granted, AER would implement a compliance plan that results in a net environmental benefit and mitigates the environmental impact represented by extending the SO₂ compliance dates set forth in the MPS.

	CATEGORY	UNIT	CONTROL TECHNOLOGY	DATE INSTALL ED
COFFEEN	SO₂ Control	U1	WFGD	Nov 2009
		U2	WFGD	Mar 2010
	NO_x Control	U1	OFA	2001
			Comb. Opt.	2002
			SCR	2003
		U2	OFA	2000
			Comb. Opt.	2002
			SCR	2002
	Mercury Control	U1	WFGD	2009
			AER uses refined fuel for enhancement for mercury removal.	2012
		U2	WFGD	2010
			AER uses refined fuel for enhancement for mercury removal.	2012
		U1/U2	Mercury Sorbent Traps	2012
	Particulate Matter	U1	ESP / Upgrade	1973
			FGC (SO ₃ Inj.)	2001

	CATEGORY	UNIT	CONTROL TECHNOLOGY	DATE INSTALL ED
		U2	ESP / Upgrade	1972
			FGC (SO ₃ Inj.)	2001
			New ESP	Mar 2010
	SO ₂ Control	U1	WFGD Replacement	Mar 2009
	NO _x Control	U1	LNB LNB SCR	2002 / 2003 2009 2003
DUCK CREEK	Mercury Control	U1	WFGD cobenefit for mercury control	July, 2009
			AER uses refined Fuel for oxidation enhancement for mercury removal.	2011
			Mercury Sorbent Traps	2012
	Particulate Matter	U1	ESP / Upgrade New ESP	1976 / 2009
	SO ₂ Control	U1 – U3	PRB fuel conversion	2005
EDWARDS	NO _x Control	U1	LNB	1998
		U2	LNB	1993
			LNB / OFA upgrade	2008
		U3	LNB SCR LNB / OFA upgrade	1994 2003 2008
EDWARDS (cont'd)	Mercury Control	U1	ACI	Jul 2009
		U2	ACI	Jul 2009
		U3	ACI	Jul 2009
	Particulate Matter	U1	FGC (SO ₃ Inj) / Upgrade for ESP Performance	1979 / 2003

	CATEGORY	UNIT	CONTROL TECHNOLOGY	DATE INSTALL ED
		U2	FGC (SO ₃ Inj) / Upgrade for ESP performance Power Supply Upgrade	1979 / 2003 2009
			ESP upgrade for SO ₃ injection Elimination	2012-2013
		U3	ESP FGC (SO ₃ Inj)	1972 1979
		U1 &U2 U1	PRB Fuel Conversion WFGD	1997 In Progress
	SO ₂ Control	U2	WFGD	In Progress
		U1	LNB / OFA	1994
			Comb. Opt.	2003
	NO _x Control	U2	LNB / OFA	2001
			Comb. Opt.	2003
		U1	ACI with optimization by CaBr ₂	2009
	Mercury Control	U2	ACI with optimization by CaBr ₂	2009
		U1	ESP	1977
			FGC (SO ₃ Inj) / Upgrade	1995 / 2001
	Particulate Matter	U2	ESP	1982
			FGC (SO ₃ Inj) / Upgrade	1987 / 2001
			Upgrade	2012
	SO ₂ Control	U1 - 6	PRB Fuel Conversion	1992 - 1994
	NO _x Control	U1	LNB	1993

CATEGORY		UNIT	CONTROL TECHNOLOGY	DATE INSTALL ED	
			Comb. Opt.	2002	
			SOFA	2008	
		U2	LNB	1994	
			Comb. Opt.	2002	
		U3	LNB	1993	
			Comb. Opt.	2003	
			SOFA	2007	
		U4	LNB	1993	
			Comb. Opt.	2002	
			SOFA	2009	
		U5	LNB	1995	
			Comb. Opt.	2002	
			SOFA	2006	
		NO_x Control (cont'd)	U6	LNB	1994
				Comb. Opt.	2001
SOFA	2005				
JOPPA (cont'd)	Mercury Control	U1	ACI	2009	
		U2	ACI	Jul 2009	
		U3	ACI	Jul 2009	
		U4	ACI	Jul 2009	
		U5	ACI	Jul 2009	
		U6	ACI	Jul 2009	
		U1-6	Mercury Sorbent Traps stacks 1-3	2007 - 2008	
	Particulate Matter	U1	ESP Upgrades	1994	
			FGC (SO ₃ inj)	1994	
		U2	ESP Upgrades	1994	
			FGC (SO ₃ inj)	1994	
		U3	ESP Upgrades	1994	
			FGC (SO ₃ inj)	1993	
		U4	ESP Upgrades	1994	
			FGC (SO ₃ inj)	1993	
U5		ESP Upgrades	1994		
		FGC (SO ₃ inj)	1994		
U6		ESP Upgrades	1994		
		FGC (SO ₃ inj)	1994		

	CATEGORY	UNIT	CONTROL TECHNOLOGY	DATE INSTALL ED

F. AER’s Request is Consistent with Federal Law and Will Not Jeopardize Illinois EPA’s BART Compliance Demonstration.

The Board may grant the variance consistent with federal law and, specifically, with the Clean Air Act, 42 U.S.C. 7401 *et seq.* USEPA approved revisions to the Illinois State Implementation Plan (“SIP”) addressing regional haze on July 6, 2012. The Clean Air Act section 169A and Regional Haze Rule require States to address the best available retrofit technology (“BART”) requirements for sources with significant impacts on visibility. BART is defined as follows: “an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by an existing stationary facility.” 40 C.F.R. §51.301. USEPA approved relevant sections of the MPS and Illinois Combined Pollutant Standards (“CPS”), and two permits and incorporated them into the SIP as satisfying BART requirements for the affected Illinois power plants and refineries. Accordingly, the MPS, as of August 6, 2012, 30 days after the date of publication in the Federal Register, is federally enforceable. USEPA noted in response to public comments that Illinois’ plan would achieve greater reasonable progress – meaning greater emissions reductions and greater visibility protection – by the BART compliance deadline (in 2017) than the application of BART on BART-subject units.

If the Board grants AER’s requested relief, the Agency must seek an amendment to the Illinois SIP to incorporate the revised SO₂ emission limits applicable to the AER fleet. When compared to emissions reductions by AER’s energy centers under the MPS, the variance, as proposed by the Agency, imparts even greater emissions reductions by the BART compliance

deadline in 2017. Accordingly, such an amendment would only serve to enhance Illinois' ability to comply with the Clean Air Act and Regional Haze Rule.

AER will also comply with the CSAPR, which is not yet effective, and the MATS through the use of a combination of existing FGD systems and sorbent injection technologies.

III. RESPONSES TO BOARD QUESTIONS RAISED AT HEARING

During the public hearing of August 1, 2012, there were a number of questions posed by the Board members and Alisa Liu from the Board's technical unit. Several questions were answered during the hearing, and several were deferred and will be addressed herein. To aid the Board in its review, AER will address each of the questions individually in this section.

1. "My first question, in Ameren's responses to the hearing officer dated July 6, 2012, question No. 2, it provided a more detailed compliance plan on page 6. However, there is no estimated timeframe for the phases of the compliance plan. AER states, quote: "Engineering design will continue through 2012." AER then refers to other activities that, quote, "will occur through-out this period as well." Did AER intend for the reference to this period to indicate the variance period or just between now and 2014?" "Can AER be more specific regarding the time frames or the cost for phases of the compliance plan?"(Alisa Liu, TR. 32)

The Newton scrubber project entails integrated work packages ranging from engineering and design, to construction and procurement. Each of these categories has literally hundreds of specific tasks that must be executed in order to complete the project. AER has invested \$237 million in the scrubber project and believes that one day finances will improve such that the project can be completed (AER has every incentive to complete the project and it cannot even begin to recoup its financial investment unless and until the project is completed).

The deceleration of the project has resulted in a re-focusing of effort. The primary objective has been to unwind construction tasks in manner that allows the project to resume rapidly and with minimal planning delay. Virtually all components that require advance

fabrication have been completed and are being delivered to the site. Foundation work, site preparation, and engineering design work will continue. As indicated, AER has budgeted \$16 million annually to keep these efforts moving forward. AER is in continual discussions with its general contractor Advatech to define work tasks that can occur within this \$16M envelope. Everything that can be done on the ground including the construction of the new chimney stack will be performed. What will not occur is the massive scaffolding and mobilization of outside labor forces needed to support the “up in the air” mechanical work and electrical connections.

Assuming relief is granted, the Company’s current budget projections call for greatly increased capital expenditures commencing in 2018 and 2019 so that AER will be in a position to comply with the MPS once the proposed variance term expires on January 15, 2020. A specific timeline that establishes construction and project milestones cannot be provided until an in-service date is fixed. Once the Company “green lights” the project, AER project management and its general contractor Advatech will reestablish a hard and fixed schedule that “backtracks” from the service date and takes into account work already completed. While AER can certainly provide progress reports, it is difficult to provide a specific and targeted prospective schedule beyond the categories of work provided previously to the Board.

2. “And then in table 3, we’re wondering whether or not you could check the numbers in this table. In particular, I wasn’t able to follow the calculation for the last column cumulative SO₂ variance reduced tons.” (Board Member Burke, TR. 35).

AER apologizes for any confusion resulting from the tables presented. In order to allow a better review and understanding of the Cumulative Reduction in SO₂ Variance Tons, AER is providing two additional columns of data: the “SO₂ Reduced Tons” and “Net Variance SO₂ Tons.” A new Table 3 is provided as Exhibit 4. AER also provides some explanatory notes to aide in the review. Specifically, the tons shown for 2010 and 2011 under “Variance SO₂ Tons”

are based on actual emissions. For the remaining years in that column, Exhibit 4 must depict projections since actual emissions have not yet been measured. Also, the “SO₂ Reduced Tons” depicted in Exhibit 4 for the years 2012 through 2020 are based on the result of not operating Hutsonville and Meredosia *less* the emission accounted for the FutureGen Project (as discussed more fully in our answer to Question #3 below).

Contrary to ELPC’s assertion (PC# 2409, pg. 38), AER does not understate the amount of SO₂ emissions that would be allowed under the proposed variance. AER maintains, as it always has, that it is appropriate to calculate projected emissions under the MPS using a baseline heat input that includes Meredosia and Hutsonville. Simply put, Meredosia and Hutsonville are part of the Ameren MPS group. Table 4, attached to AER’s responses to the Board’s second set of questions, shows that even when removing Meredosia and Hutsonville from the heat input, the variance will still provide a net environmental benefit of 7,770 tons SO₂ when compared to the SO₂ emissions that the Ameren MPS Group is allowed under the current MPS.

3. *“I am wondering if you could explain in more detail what you meant by factoring two times the projected emissions from the Future Gen project for the Meredosia Energy Center, and I am on page 9 of the first set of questions?” (Board Member Burke, Tr. 36)*

As presented in our Petition, the Meredosia Energy Center is being considered as the location for the zero emission coal plant project known as FutureGen. AER is proud to be a part of this advancement in environmentally friendly technology. The current plan is to use the oil-fired unit at the Meredosia Energy Center site for the project. Since emission offsets may be required for permitting of the project in the future, Illinois EPA wanted to make sure that any such offsets were not “double counted” in our calculations of net environmental benefit. As such, AER was overly conservative and factored, by deducting from the reduced tons total, two times the projected emissions to account for FutureGen project (two times the projected

FutureGen SO₂ emissions is an estimated 590 tons). The projected emissions from the FutureGen project were factored into Table 4 as well.

4. “Is there a last possible date at which point AER will know if it will not be able to complete the FGD before the proposed January 15, 2020 compliance date.” (Alisa Liu, Tr. 37).

At hearing, Mr. Menne expressed the difficulty with providing the Board with a date certain by which AER will know if completion of the scrubber project is feasible. (Tr. 38). AER’s compliance plan, however, is premised on the commitment that meaningful engineering, procurement and construction activities will continue through the variance period. In support of the proffered compliance plan, Mr. Menne indicated that AER is “committed to spending roughly \$16 million a year on continued activities at the Newton scrubber between now and 2020.” (Tr. 32). With the investment of over \$237 million made to date and further commitment of \$16 million dollars each year, AER is *invested* in completing the project and would only abandon completion under severe financial circumstances.

5. “Could Ameren please comment on human health and environmental impacts of SO₂ emissions in general?” (Board Member Burke, Tr. 38)

In its petition, AER examined whether any injury would result to the public or the environment from the granting of relief. (Pet. 25-29). As explained, AER specifically crafted its mitigation and compliance plan to address any environmental impact that may have resulted from the structure of the variance relief. Further, when asked by the Agency to reexamine the mitigation rate and length of the variance period, AER challenged its expert staff to try to do even better than the relief structure originally presented to the Board. AER did exactly that when it came back before this Board in answer to questions presented to AER in the July 5, 2012 Hearing Officer Order and agreed to both a tighter mitigation rate as well as a shorter variance period. Assuming the alternative approach to the variance relief, the Illinois EPA agreed with

AER that “there will be a net environmental benefit if the Board were to grant the requested relief subject the terms and conditions” contained within the Agency’s Recommendation. (Rec. 22). The Agency further stated that it “does not believe that any environmental harm would result.” (*Id.*).

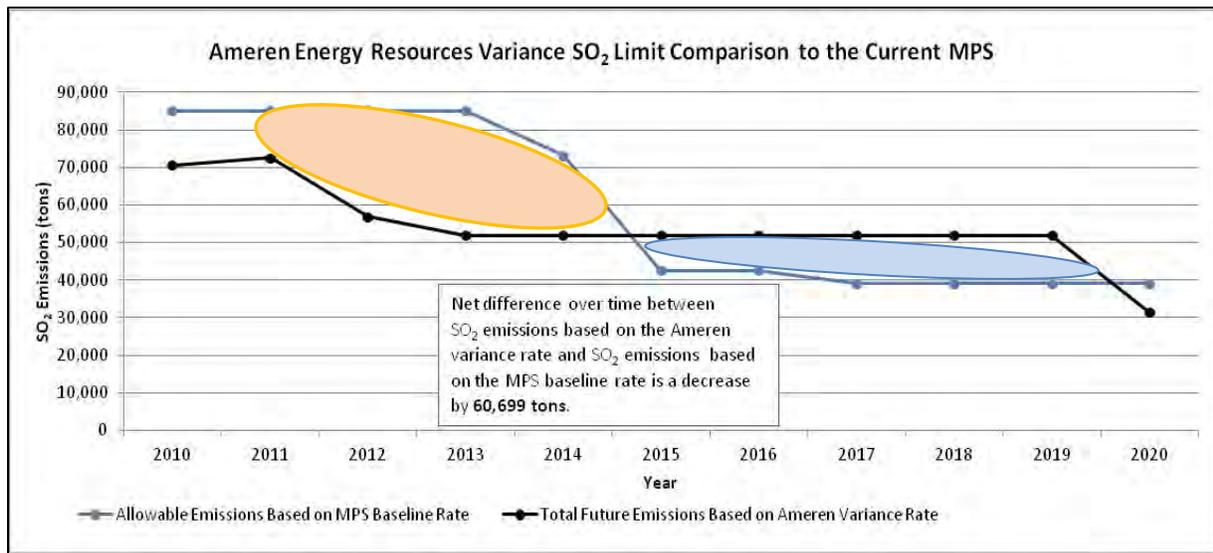
At hearing, however, AER was confronted by a number of commenters accusing it of “killing people” and suggesting that the proceeding “will determine whether Illinois residents will live or die.” (Tr. 101). The Attorney General presented a letter to the Board with its conclusion that “harm” will result because emissions during the 2015 through 2019 period will be higher and “that harm cannot be undone or offset through earlier or later reductions.” (PC# 249). The Attorney General does not provide or describe the methodology employed or the analysis it used to reach these conclusions.

As stated above, AECOM prepared a Letter Report addressing the potential health effects relating to SO₂ emissions under the requested variance. As expressed by Mr. Menne at hearing, he is not a health expert “and he did not feel comfortable going into health consequences, although he observed that overall more tons of SO₂ will be “out of the air.” (Tr. 39). AER feels strongly that any review of potential health impacts must be presented to the Board by a toxicologist with expertise in the area of air impacts and not by someone without the appropriate qualifications.

The Letter Report prepared by Dr. Fraiser And Dr. Bradley is attached as Exhibit 3. In the Report, AECOM examined the transcript and documents surrounding AER’s variance request. AECOM first observes that over the course of the entire variance period, between now and 2020, the total tons of SO₂ reduced in the atmosphere will be greater if the variance is granted than if it is not. (Letter Report, pg 3). The Drs. attribute this reduction in emissions to

certain terms of AER's compliance plan, namely its agreement to a tighter mitigation emission rate during 2012-2014 and AER's commitment to keep two of its coal-fired power plants shut down during the variance period, which will result in less coal being burned. (*Id.*).

AECOM also provides a graph which illustrates the comparison of AER's SO₂ emissions under the provisions of the MPS and the revised variance request. (*Id.*).



The blue line represents AER's baseline emissions under the MPS and the black line represents emissions under the revised variance request. As Dr. Fraiser and Dr. Bradley point out in the graph, AER's emissions under the SO₂ variance are considerably lower than the MPS emissions between 2012 and 2014 and are slightly higher from 2015 to 2019. (*Id.*). However, the area representing the difference between the MPS and revised variance emissions from 2012 to 2014 is greater than the area between the MPS and SO₂ variance emissions from 2015 and 2019. They also note that AER has voluntarily operated at lower SO₂ emission rates since 2010, and if those reductions are taken into account, the positive difference is even larger. (Letter Report, pg. 3.).

AECOM challenges within the Report the assumption that SO₂ emissions from the AER coal fleet are at levels that could potentially result in off-site ambient concentrations high enough to cause adverse health effects even under the current provisions of the MPS. (*Id.*). For purposes of responding to the accusations presented through public comment and the Attorney General, however, the Drs. treat the methodology employed to correlate SO₂ emissions and health effects directly from power plants as not flawed and determines that granting the variance would result in an overall net benefit in terms of health effects. For example, if the hypothetical risk relationship of one additional asthma-related emergency room (ER) visit per 100 tons of SO₂ emitted is assumed, there will have been 77 fewer ER visits over the duration of the variance period than if AER complies with the MPS on its current schedule. (*Id.* at 3-4). AECOM stresses, however, that this assumed risk relationship is purely hypothetical, as risk relationships of this nature are typically expressed on a per capita per ton basis, taking into account the size of the potentially exposed population. (*Id.* at 4). AECOM further stresses that although it can be universally agreed that respiratory effects such as asthma attacks and chronic obstructive pulmonary disease (COPD) represent adverse or harmful effects, simply establishing that a person who has been exposed to SO₂ experienced bronchoconstriction or a reduced expiratory volume is not proof that the exposure caused the effect. (*Id.*). This is because in any individual, these effects could have been caused by a number of different factors, for example, indoor or outdoor allergens, smoking or passive exposure to cigarette smoke, or viral pathogens. Likewise, the fact that a power plant may emit SO₂ does not necessarily mean that off-site air concentrations will be high enough to elicit adverse health effects. (*Id.*).

AECOM goes on to address a number of the public comments presented at the hearing. It begins with the comments presented by the Attorney General. Dr. Fraiser and Dr. Bradley

dispute the Attorney General's statement that additional harm would occur despite the overall reduction in tonnage of SO₂ emissions over the term of the variance. AECOM concludes that there would be fewer adverse health effects overall and, therefore, the health benefits of approving the variance requested by AER outweigh the health costs when considering the entire variance period. Even this conclusion, is based on the assumption that there is a causal relationship between SO₂ exposures and adverse health effects. AECOM states that "more studies than not have failed to find statistically significant associations between long-term and short-term SO₂ concentrations and adverse health outcomes." In fact, it references a USEPA report prepared in support of the most recent SO₂ National Ambient Air Quality Standards review, which finds no causal relationship between long-term exposure to SO₂ and asthma, bronchitis, or respiratory symptoms. The report did find a causal relationship between respiratory morbidity and short-term exposure to SO₂. However, the studies USEPA relied on found either no association or very small positive associations. Even those that showed weak positive associations raised questions about whether exposure and effect were causally associated. (*Id.* at 4-5.).

The Letter Report also contradicts the statement by a representative of Sierra Club implying that SO₂ is responsible for the increase in asthma over the last several decades. AECOM explains that exposure to outdoor pollution is probably the least likely culprit. The Drs. say, for example, that nationwide SO₂ concentrations fell 32% between 1980 and 1990 alone. There are a number of explanations for the increase in asthma cases, but the insinuation that SO₂ emissions are significant contributors to the rise in reported asthma cases is not supported by the evidence in literature. (Letter Report, pg. 6). AECOM's responses to public comments consistently showed that generalized comments claiming SO₂ caused respiratory illnesses

including asthma relied on studies that either did not show statistically significant results or could not isolate the effects associated with SO₂ from confounding co-pollutants.

In response to a number of public commenters who made generalized statements such as “Coal power plants kill people” and “Hundreds of people in Illinois die from what comes out of coal-fired power plant stacks,” AECOM stated “the public debate on air pollution coupled with the sensationalized air pollution health stories in the media have created the appearance that harm from air pollution is much greater and more certain than suggested by the underlying scientific evidence.” Dr. Fraiser and Dr. Bradley attached an article by Dr. Joel Schwartz, which demonstrates that misinformation about air pollution is wide spread.¹¹ A closer review of the studies looking at the health effects of low levels of air pollutants relied upon by activists, health scientists, and even governmental agencies show their claims are based on observational studies that do not control for co-pollutants, lifestyle variables, or even contemplate regional disease patterns that have nothing to do with air pollution. *Id.* at 10. The AECOM Letter Report directly contradicts the Attorney General’s statement that any harm done cannot be offset through earlier emissions and shows the lack of evidence supporting claims that the variance will determine whether Illinois residents will live or die.

6. “If CSAPR does go into effect, does Ameren have a compliance plan?” (Board Member Zalewski, Tr. 41)

At hearing Mike Menne explained that on the SO₂ side, AER would still have to take some additional measures in order to meet the Cross State Air Pollution Rule (“CSAPR”). (Tr.

¹¹ Dr. Joel Schwartz is Professor of Environmental Epidemiology in the Department of Environmental Health at the Harvard School of Public Health in Boston, Massachusetts. Dr. Schwartz received his Ph.D. from Brandeis University in Statistical Physics in 1980. He was formerly employed as a staff scientist and senior scientist for USEPA.

42). He mentioned options including bringing in lower sulfur coal and additional sorbent injection. (*Id.*). Mr. Menne was clear, however, that none of these additional measures would help the company achieve the MPS rates at issue. (*Id.*). As further explained, by committing to the mitigation SO₂ rate of 0.35 lb/MMBtu, AER will need to employ these additional measures to achieve compliance with that lower rate. (Tr. 25).

Determining AER's CSAPR compliance plan requires a bit of forecasting because we can not necessarily assume that the rule will be upheld in its full and current form. However, based on the substance of the currently stayed rule, AER's compliance strategy for CSAPR and the MPS do overlap. As indicated by Mr. Menne at hearing, the company will continue to procure low sulfur coal and maximize the operation of its FGD systems to reduce SO₂ emissions. Alternative technologies such as DSI and operational measures such as management modifications of utilization rates of units will also continue to be evaluated and employed, if appropriate. However, the compliance mechanisms under MPS and CSAPR contain several significant differences, but two are worth highlighting. First, CSAPR is implemented according to state allowance budgets. These budgets are developed by USEPA as part of the rulemaking process. Second, CSAPR contains a mass emission limitation whereas the MPS is a rate based compliance limitation. Depending on how the state budget allowances are determined post appeals, AER could procure allowances as one of its compliance techniques. Assuming the second phase of CSAPR ultimately goes into effect, AER anticipates that it would need to implement additional technology measures such as completing the Newton scrubber or installation of a sorbent injection system or modify the utilization rates at certain units. That decision cannot be made, however, until the appeals are resolved, the compliance deadlines established, and the state allowance budgets finalized.

7. *“The AG suggested a shorter two year variance, and I was just wondering if Ameren would comment on the feasibility of the suggestion and the impact on air emissions?” (Board Member Zalewski, Tr. 203)*

Unfortunately, for planning purposes, a two-year variance simply does not create a sufficient period of economic certainty and AER would have little choice but to begin transitioning into mothballing of its uncontrolled units and/or plants. This is due to the regulatory structure of the MPS, the anticipated construction timeline required prior to the compliance date, and the high level of certainty that power markets will not sufficiently return over the next two years such that a capital funding option is available. Without the additional lead-time that AER has requested, the Company would be compelled to make the very difficult decision to continue to fund the Newton scrubber without comfort that an additional extension would ultimately be granted—in a time of extremely limited access to capital, the Company would likely decide that its capital would best be deployed in other, less risky projects. The rationale behind AER’s request for a five year variance is based upon the regulatory structure of the MPS, the control strategy and construction timeline needed to comply with those requirements, and the anemic economic outlook over the next several years.

The Board may note that the structure of AER’s requested relief is such that compliance with both the 0.25 and 0.23 lb/MMBtu SO₂ emission standards is separated by two only weeks (December 31, 2019 and January 15, 2020, respectively). That is because the control technology needed to achieve **both** of these rates, is the same – the completion of the Newton scrubber. In reality, achievement of one is the achievement of the other. A two-year variance as suggested by the Attorney General would move the 2015 compliance date to 2017 (and keep the 2017 compliance date unchanged). In order to comply with these rates, AER would need to re-accelerate the Newton scrubber starting in January 2015 so as to accommodate the estimated 24-month construction schedule.

As the Board is well aware, economic growth is virtually stagnant and AER does not expect power prices to recover (certainly not sufficiently) over the next twenty-eight months. Even the most optimistic economist would characterize this economy as faltering. Power prices have dropped steadily over the last four years and a return to more typical rates will likely be very gradual. As Mr. Gary Rygh testified, without a dramatic and sustained rebound in power prices, investors simply will not fund the \$200 million to \$250 million needed to complete that project and meet other financial obligations. The five-year term was selected with this bleak horizon in mind to allow a sufficient window for the economy (and power prices) to recover and to facilitate the two-year construction cycle. Investors need to see sustained growth before access to capital will be possible. Because of that reality, instead of investing in the Newton scrubber, AER will need to transition to a compliance strategy that encompasses shutdowns with all of its unfortunate and tragic consequences. Accordingly, a two-year variance is tantamount to a variance denial. While AER certainly appreciates the Attorney General's apparent belief that variance relief is appropriate, the suggested variance does not provide a sufficient relief period to alter the only other viable compliance option available to AER. AER carefully designed its request for relief to focus on what is needed based upon the current economic predicament and the need to synchronize both the construction and financing of the scrubber project. A two-year variance simply does not provide sufficient relief to AER. We believe we have presented a case that supports the variance terms AER requested along with the modifications suggested by IEPA and our other proposed conditions.

8. "Several public comments referred to the benefits that Ameren realized by opting into the MPS. Could you please comment and quantify the benefit that Ameren has realized in terms of controls for mercury, NOx and SO2? I am particularly interested in the perceived benefit regarding mercury?" (Board Member Glosser, Tr. 204)

Pursuant to 35 Illinois Administrative Code Part 225, Subpart B, electric generating units (“EGUs”) are required to reduce mercury emissions by a specified removal rate (expressed as either percent reduction from input mercury content or an outlet based emission standard), beginning July 1, 2009. The regulations also contain alternative compliance mechanisms. Ameren selected the MPS compliance option and in so must, and has performed and is performing, the following:

- Installed an activated carbon injection (ACI) system on each unit less than 90 MW by July 2009, resulting in the installation of 12 systems;
- Injects halogenated activated carbon into the ACI systems at a rate determined by the type of coal burned and in an “optimized manner” as defined by Section 225.233(c)(2);
- In lieu of an ACI system, installed 3 FGD/SCR combined system in combination with the burning of bituminous coal.

Also, by opting into the MPS, AER is required to achieve a specified removal efficiency or emission rate for mercury effective July 1, 2015 and reduce SO₂ and NO_x emissions across the System pursuant to progressively tightening emission rates.

At the time of the original rulemaking, the company believed that three years was insufficient time to install control technology and to test and perfect various sorbent injection methodologies across the fleet so as to achieve compliance with the mercury removal requirements. (As one AER employee from the E.D. Edwards plant noted, performance under laboratory conditions is very different than under field operating scenarios). Ameren believed that substantial field testing and refinement would be needed and therefore opted into the MPS. The benefit to the company was that the compliance date for one aspect of the regulation

(compliance with the removal efficiency) was deferred from July 2009 to January 2015. Notably, the obligation to install control technology and to inject activated carbon was not deferred. AER has continued to test various control methodologies and reagents.¹² At five of its active units, AER has recorded mercury emission levels between 0.0018 and 0.0073 lb/GWh, well *under* the 0.008 lb/GWh standard that will go in effect in 2015. Mercury emissions at nine other units have been recorded at levels between 0.01 and 0.018 lb/GWh and AER has continuous experimentation and testing underway. AER also notes that with the exception of two units, overall mercury capture currently ranges from 80% to 95%. AER continues to evaluate and test mercury control technology to achieve more effective control and has been committed to reducing emissions as indicated by this data. The mercury reductions from AER's fleet are being achieved three years ahead of the compliance deadline set forth in the MPS. There is no question that the environment in Illinois is benefitting from these early reductions.

Many public commenters have referred to the "benefits" AER has gained through the MPS. To really examine the benefits, one needs only to look back at the testimony Jared Policicchio of the Chicagoland area offered into the record at the August 1 hearing. Mr. Policicchio quoted the testimony of Michael Menne from the original mercury proceeding: "the proposal we put before you today sets out a regulatory scheme that addresses three pollutants, SO₂, NO_x and mercury, in a way that synchronizes and coordinates regulatory reduction mandates that are clearly on the way." (Tr. 140). Mr. Menne went on to say that the "amendment reflects our commitments to meet specific regulatory limits for mercury by 2010 and 2015, representing 90% reduction on all but its smallest units, and substantial and real

¹² Exhibit 2 to the Petition details the numerous ACI permits obtained by AER and pilot tests performed as the Company seeks to refine the best technology appropriate for its units.

reductions in NO_x and SO₂ which go beyond the CAIR requirements.” (*In the Matter of: Proposed New 35 Ill. Adm. Code 225 Control of Emissions from Large Combustion Sources (Mercury)*, R06-25, Testimony of Michael Menne, pg. 8-9, filed Jul. 28, 2006).

There is no question that the company’s intended benefit was to align the MPS’s NO_x and SO₂ emissions requirements with what AER believed to be its control strategy for compliance with then pending CAIR regulations. Those regulations were deemed legally flawed and remanded back to USEPA. USEPA’s CAIR replacement, CSAPR, has been stayed pending judicial review. The intended benefit to AER--coordinated implementation of state and federal regulatory requirements--has not occurred but substantial and real reductions of NO_x and SO₂ are still occurring. Much like the Attorney General, AER is also proud of the work it did to establish the MPS and agrees it put Illinois in a national leading role in terms of pollution control reduction. (Tr. 85). Unfortunately, the Attorney General did not develop the MPS nor can that Office talk to the purposes of its origination. AER can “look through the lens of the work that was done to achieve the MPS” as suggested by the Attorney General (Tr. 86) because ***AER has done and continues to do the work.*** The full benefit of the regulatory structure of the MPS has not been realized by AER, but the environment in Illinois is benefiting from its work and will continue to so benefit in the future.

IV. CONCLUSION

There are many people throughout this proceeding that talked about their participation in the creation of the MPS. Some claim it is their job to defend it, some claim that it was a “deal” they “agreed to” and yet others claim that without it, people will die. Yet, it was Ameren, who offered the very proposed language that was adopted ultimately as the MPS; and Ameren who worked with the Agency to negotiate, draft and advance the inclusion of the proposed

amendment within the underlying proposed regulation. (*In the Matter of: Proposed New 35 Ill. Adm. Code 225 Control of Emissions from Large Combustion Sources (Mercury)*, R06-25, Ameren Joint Statement, filed Jul. 28, 2006). To be sure, at a later date, one other power generator presented its own approach to the MPS which also was ultimately adopted, and the Agency consulted with the environmental groups about the overall approach. Along the way, the Board took each position into consideration. The record shows, however, that no other stakeholder put more effort and heart into the MPS than Ameren. Those are just the bare facts.

Just like Ameren put the time and effort, heart, and hard work into the MPS, so too do the men and women of AER put their hearts and and hard work into how they operate their power plants. At the August 1, 2012 hearing, the Board heard time and time again what AER employees bring to their jobs and communities every day. It is worth repeating some of those comments here because they are emblematic of the environmental stewardship of AER:

Mr. Bogardus, E.D. Edwards Energy Center: “We go to work every day and manage our power plants with every one of you in mind. First part of every day is to look exactly at how we did in the environmental footprint the night before, and I do that every day, and my signature goes on every single piece of paper and the men and women who are going to stand up here spend more overtime on this system called ACI, mercury, trying to make sure we do absolutely everything we can to go above and beyond the minimum, above and beyond the minimum opacity, the late nights they’re running. These people work hard for you. They understand. The men and women here with these vests on are working really hard, and we like you to consider that.” (Tr. 136).

Mr. Carter, Duck Creek and E.D. Edwards: “I just want to assure the Board that we are very dedicated to providing electricity in an environmentally responsible manner. I’ve been

there long hours, late nights, trying to make everything work like it should be. We're also very dedicated to our families and communities in which we live." (Tr. 165).

Mr. Killebrew, E.D. Edwards: "What we are doing is spending a lot of time and effort trying to get up the pollution controls we do have. I work with a number of instrument techs. That's what I do there, and every day we work with ACI, the SCR, and we work very hard to try to make the emerging sciences that Faith talked about work properly." (Tr. 175).

Mr. Pullen, Joppa: "Ameren and these employees you see out here, we are the people that make the decisions every day on how our plants are operated. We work hard. We do not gamble. We do not fool around. We operate our plants in a safe, environmentally responsible manner." (Tr. 198).

Mr. Marschewski, Newton: "I would comment on the fact that Ameren has done more than nothing. I live it every day. I've worked on the equipment that's been put in five years. I've been there for the activated carbon, calcium bromide, not to mention the precipitators that remove particles from our effluent. I'm constantly working on that and developing ways to make it better and keep it on line." (Tr. 238).

Mr. Pierson, Joppa: "We're not like everyone has said, we're not here to deliberately do anything wrong. We do everything we can. Every morning of every day we meet and see what we can do, what we can be better. We meet the standards, and we continually strive to be even better than the standards. That's just the way we are." (Tr. 259).

Obviously, this sample of comments is only a small representation of the men and women of AER who traveled long distances and waited a number of hours to express their own thoughts and opinions to this Board. They are invested in what they do every day and they care

about their future. These people of southern and central Illinois are also the “People” of the State of Illinois.

Numerous elected officials, a number of them during an election year, took a day out of their schedule to explain to the Board exactly what is at stake. Senator Forby stated simply: “Everybody wants clean air. There’s no doubt about that. . . . If it keeps going like it’s been going and we don’t sit down and think what we’re doing, we won’t have a southern Illinois. It’s going to be gone.” (Tr. 58).

The mayors of towns that would be directly impacted by the Board’s decision in this proceeding recognized that this is not a choice between jobs and the environment, but rather one that can benefit both. The mayor of Newton Illinois, Mayor Bolander, stated “I’m asking the Illinois Pollution Control Board to grant the extension to ensure reduced emissions and higher environmental standards while protecting the economic livelihoods of Illinois families.” (Tr. 79). Julie Johnson, mayor of Joppa, Illinois added “We realize our environment is important but it’s hard to put this aside when your families are without work, can’t be provided for, your village is losing people out because they have to go elsewhere for jobs, your schools close down, and that pretty much devastates your community.” (Tr. 103). In explaining how vital the Joppa Energy Center is to the area, the Mayor of the City of Metropolis, Billy McDaniel explained “You know, we do know that we have to have a quality of life as far as pollution and things of that nature, but we also still have to have a quality of life as far as economic situations.” (Tr. 105).

AER knows what is at stake when faced with plant closures and the value of having the men and women of southern and central Illinois willing to travel to Springfield, Illinois, to put their own face to the other perspective. As Representative David Reis said so effectively to the

Board, “The people of Jasper County that I represent, you know, they don’t have big organizations representing them, no lobbyists, no lawyers, no database of activists to send in comments, but for common sense folks, we have a deep sense for our community and our schools and our jobs, and I would be willing to bet in fact that not one person from Jasper County put their name on this denial request. I bet not one sent in a comment saying we reject it.” (Tr. 66). To assume, as several of the commenter have, that AER has not considered all of its options before it presented its plant shut down case to this Board is absurd. The reality is that the decision the Board is now facing is as serious as the decision AER faced when it came to this Board on May 3, 2012.

It is important to note that AER and the elected officials that appeared at hearing agree with Faith Bugel of ELPC that this is not a choice between jobs and the environment. AER made sure it would not put the Board in that position and did so by presenting a variance request that provides an overall net environmental benefit to the State of Illinois. AER presented its request to the Board in this way because it is not ready to give up on the completion of the Newton scrubber and it is certainly not prepared to give up on the plants. AER disagrees with both the Attorney General and ELPC when they suggest that the plants are “likely reaching the end of their viable life anyway and that with or without the variance, it is likely that these plants will shut down.” (Tr. 117). Even in the face of adversity in the market, regulatory landscape and aggressive opposition from activists and the Attorney General, AER is before this Board asking it to allow the variance process to work. AER had demonstrated that it faces a hardship that cannot be fairly characterized as self-created or foreseen. It has provided the Board with a variance request and compliance plan that provides a net environmental benefit. AER’s framework, contrary to the Attorney General’s assertions, does respect the very essence of the

MPS and in fact, enhances it. AER has met its burden. AER now respectfully asks the Board for time to comply with the 2015 and 2017 emission rates under the MPS. AER will allow Mr. Weaver's own words to explain, *"Chairman, ladies and gentlemen of the Pollution Control Board, thank you for giving us this opportunity to present today. You know, coming up here today...first of all, my name is J. D. Weaver. I work at the Ameren facility in Duck Creek. Prior to that, I worked at the Dynegy plant in Havana, Illinois. In '94 I was laid off from there due to the economic conditions shutting units 1 through 5 down. Six years later, I was fortunate enough to be employed with Ameren and have worked there for 12 years. Coming up here today, I didn't really think -- I'm not really a person to do public speaking but I thought I'd probably be remiss if I didn't give my 5-year-old boy a chance to say I did everything I could to remain gainfully employed, and in doing that, I didn't really want to come up here with an "us versus them" mentality, but coming at the decision upon us from a team approach, at Ameren, we use the TEAM concept and use the acronym TEAM as "Together, everyone achieves more," and in doing so, I wanted to try to put together maybe a common theme or some type of analogy that most people in this room can relate to or will relate to in their lives, and that is, all of us at some time will get a job or have a job and when they go out, they find their house of their dreams, whether it be in the city, a farm. They go to the bank. They borrow the money to help finance that dream, the American dream, and in doing so, they build, they upgrade, they fix up their house to make it the prettiest house on the block, the prettiest farm, the most productive farm, but sometimes there's circumstances that come about that are out of people's control. The person may be in an accident. That's not their fault. A person may get a debilitating illness and a person may lose their job because their company moves, all of which are circumstances that they could not foresee or was out of their control. If that happened to that person, they would do the*

prudent thing. They would go to the bank, to the loan officer, and they would try to restructure that loan, that debt obligation that they agreed to in order not to affect their credit rating, to do what's right, to do what you would do with integrity. From a banker's standpoint, they would try to work with that person and try to maybe restructure the loan, try to work with him on his payments because they don't want that house in an economy which they wouldn't be able to sell. So in that case, working together was a win-win approach. This is really not about home ownership. It's really about the situation we have at Ameren. At Ameren in our coal-fired facilities, we build our houses in Canton, Illinois, Duck Creek, Bartonville, E. D. Edwards, Newton, Coffeen and Joppa. We've upgraded those facilities. We've built that house. We've made it the best we can make it by spending over a billion dollars. In doing that, we're not trying to—we've done our part. We've tried to meet our obligations, and we're not skirting the issues. We know our environmental obligation. We're trying to achieve it, and for the people of the board, we're just asking you to be the banker; just to give us time so the market can recover so the power prices that we're facing can get the cash flow to where we can afford to finish the scrubbers.” (Tr. 246-249).

In the spirit of its dedication to environmental stewardship, AER has considered every viable alternative to seeking this variance, but there is no other economically reasonable technology, operational measure, or pollution control equipment that would allow AER to meet the 2015 and 2017 SO₂ emission rates. Completing the Newton FDG system is the most effective and economically reasonable solution and through this variance AER seeks time to finish the work it has started towards that goal. AER cannot now secure the funding necessary to complete the scrubber and the outlook for the next several years is no better. AER has shown, and the Agency agrees, that the earlier and greater SO₂ emissions reductions AER will achieve

under its compliance plan will provide a net environmental benefit if the Board were to grant the requested relief. Accordingly, AER has met its burden to show it is facing an arbitrary and unreasonable hardship, and granting the requested variance is justified under these circumstances.

WHEREFORE, petitioner Ameren Energy Resources respectfully requests the Pollution Control Board to grant its request for variance from the Illinois Multi-Pollutant Standard 2015 SO₂ emission rate through December 31, 2019 and 2017 SO₂ emission rate through January 15, 2020, as described more fully herein.

Respectfully submitted,

AMEREN ENERGY RESOURCES, Petitioner.

By: *Amy Antonioli*

Dated: August 15, 2012

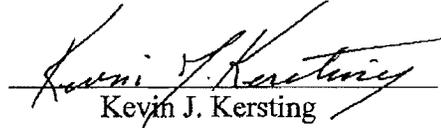
Renee Cipriano
Gabriel Rodriguez
Amy Antonioli
Schiff Hardin, LLC
233 South Wacker Drive, Suite 6600
Chicago, IL 60606

AFFIDAVIT OF KEVIN J. KERSTING

My name is Kevin J. Kersting, Managing Supervisor of Performance & Environmental Engineering for Ameren Energy Resources. In that capacity I am familiar with the various engineering studies and assessments performed at the AER facilities. In connection with those activities I am familiar with cost estimates developed internally by AER engineering and third party engineering firms.

I have read the Post hearing Brief of Ameren Energy Resources and the facts stated therein are true and correct to the best of my knowledge and belief.

Further, Affiant sayeth not.


Kevin J. Kersting

Subscribed and sworn to before me

this 15th day of August, 2012


Notary Public

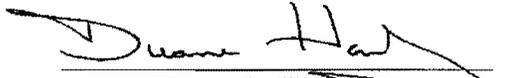


AFFIDAVIT OF DUANE E. HARLEY

My name is Duane E. Harley, Director of Engineering, and I helped prepare this public comment on behalf of Ameren Energy Resources. In that capacity I am familiar with the various engineering studies and assessments performed at the AER facilities. In connection with those activities I am familiar with cost estimates developed internally by AER engineering and third party engineering firms.

I have read the Post Hearing Brief of Ameren Energy Resources and the facts stated therein are true and correct to the best of my knowledge and belief.

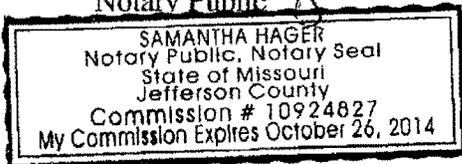
Further, Affiant sayeth not.


Duane E. Harley

Subscribed and sworn to before me

this 15th day of August, 2012


Notary Public

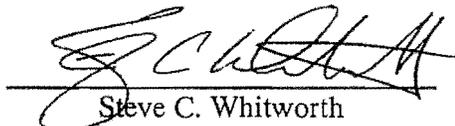


AFFIDAVIT OF STEVE C. WHITWORTH

My name is Steve C. Whitworth, Manager of Environmental Services, and I helped prepare this public comment on behalf of Ameren Services Company. I previously filed an affidavit in this matter that details my job description and duties.

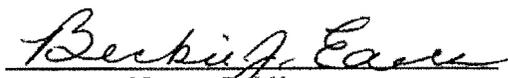
I have read the Post hearing Brief of Ameren Energy Resources and the facts stated therein are true and correct to the best of my knowledge and belief.

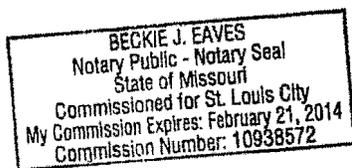
Further, Affiant sayeth not.


Steve C. Whitworth

Subscribed and sworn to before me

This 15th day of August, 2012

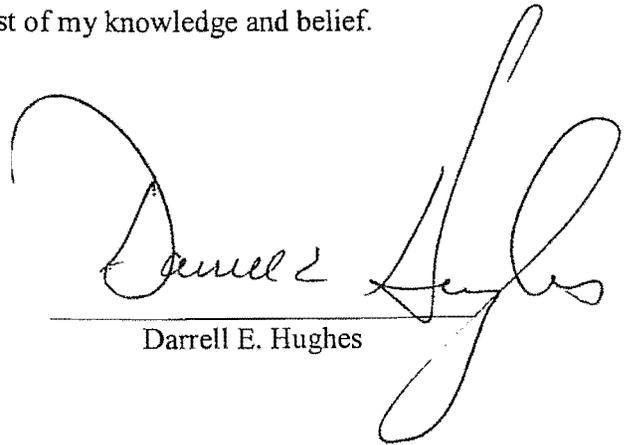

Notary Public



AFFIDAVIT OF DARRELL E. HUGHES

My name is Darrell E. Hughes, Supervisor of Valuation - Finance for Ameren Services Company. I reviewed and helped prepare information to support the Post Hearing Brief prepared by Ameren Energy Resources in connection with this matter. I have read the Post Hearing Brief and the facts stated therein are true and correct to the best of my knowledge and belief.

Further, Affiant sayeth not.

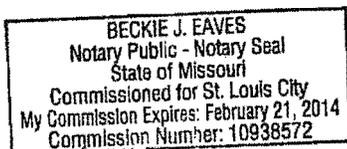


Darrell E. Hughes

Subscribed and sworn to before me

This 15th day of August, 2012

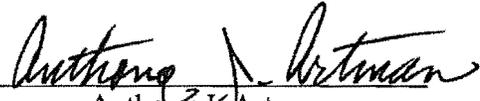

Notary Public



AFFIDAVIT OF ANTHONY J. ARTMAN

My name is Anthony J. Artman, Managing Supervisor of Strategic Initiatives for Ameren Services Company. I reviewed and helped prepare information to support the Post Hearing Brief prepared by Ameren Energy Resources in connection with this matter. I have read the Post Hearing Brief and the facts stated therein are true and correct to the best of my knowledge and belief.

Further, Affiant sayeth not.


Anthony J. Artman

Subscribed and sworn to before me

This 15th day of August, 2012


Notary Public

