ILLINOIS POLLUTION CONTROL BOARD
September 20, 2012

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

AMY ANTONIOLLI, GABRIEL RODRIGUEZ AND RENEE CIPRIANO, SCHIFF HARDIN LLP, APPEARED ON BEHALF OF PETITIONER; AND

GINA ROCCAFORTE, ASSISTANT COUNSEL, APPEARED ON BEHALF OF RESPONDENT.

OPINION AND ORDER OF THE BOARD (by J.A. Burke):

Ameren Energy Resources (AER) seeks a variance from the sulfur dioxide ($SO_2$) emission rate in the multi-pollutant standard (MPS) rules applicable to the AER MPS Group of facilities in Illinois. The AER MPS Group includes the following seven coal-fired electric generating plants: Coffeen Energy Center (Montgomery County), Duck Creek Energy Center (Fulton County), E.D. Edwards Energy Center (Peoria County), Joppa Energy Center (Massac County), Hutsonville Energy Center (Crawford County), Meredosia Energy Center (Morgan County), and Newton Energy Center (Jasper County). Pet. at 4-5. AER's variance petition (petition) seeks relief from 35 Ill. Adm. Code 225.233(e)(3)(C)(iii) for five years beginning January 1, 2015 and ending December 31, 2019, and relief from 35 Ill. Adm. Code 225.233(e)(3)(C)(iv) for three years and fifteen days, beginning January 1, 2017 and ending January 15, 2020. Pet. at 1; AER's Response to the Board' First Set of Questions (AER First Resp.) at 1.

On July 23, 2012, the Illinois Environmental Protection Agency (Agency) filed its "Recommendation" in response to the petition (Agency Response) stating that the Agency "neither supports nor objects to the [Board] granting the Petition subject to the terms and conditions contained herein." Agency Resp. at 1. The Agency determined that no environmental harm would result if the Board were to grant a variance requiring compliance with an overall annual $SO_2$ emission rate of 0.35 lb/mmBtu[1] from 2013 through 2019, considering that AER has already ceased operation of the Meredosia and Hutsonville stations. *Id.* at 11. The Agency also states that such a variance would be "acceptable" to the Agency. *Id.* at 7.

[1] "mmBtu" stands for million British thermal units or 1,000,000 Btu.

The Board received 2,023 public comments in favor of granting the petition, and 1,072 comments opposed, including several spoken at hearing and many written. The Board appreciates the extraordinary time and effort of State and local officials, individual citizens, and citizens groups who provided their professional opinions, personal stories, and concerns in this matter.

The Environmental Protection Act (Act) gives the Board authority to grant a variance from a Board regulation when it finds that compliance with the regulation would impose an arbitrary or unreasonable hardship on the petitioner. 415 ILCS 5/35(a) (2010). For the reasons set forth below, the Board finds that requiring AER to comply with Section 225.233(e)(3)(C)(iii) in 2015 and 2016 and with Section 225.233(e)(3)(C)(iv) starting in 2017 would impose an arbitrary or unreasonable hardship. Additionally, the Board finds that the requested variance will result in an overall reduction in emissions and therefore has no significant negative impact on the public or the environment. The Board also finds that the requested variance is consistent with federal law. The Board, therefore, grants the variance subject to certain conditions.

## PROCEDURAL BACKGROUND

On May 3, 2012, AER filed a petition for a variance from the overall $SO_2$ annual emission rate in the MPS applicable to the seven coal-fired electric generating stations in the AER MPS Group. *See* 35 Ill. Adm. Code 225.233(e)(3)(C)(iii) and (iv). Pet. at 4-5. AER states that, as of January 2012, it generates electricity at five of these seven stations, having ceased operations at the Meredosia and Hutsonville stations in December, 2011. *Id.* at 5, Pet. Exh. 6 at 4. AER seeks 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 approximately three years, beginning January 1, 2017 and ending January 15, 2020. Pet. at 1; AER First Resp. at 1.

The Act requires the Agency to provide public notice of a variance petition, including notice by publication in a newspaper of general circulation in the county where the facility is located, within 14 days after the petition is filed. 415 ILCS 5/37(a); 35 Ill. Adm. Code 104.214. AER's petition was filed on May 3, 2012. Therefore, publication of newspaper notice was required by May 17, 2012. The Agency placed newspaper notices in newspapers in each of the seven counties where facilities in the AER MPS Group are located on dates between May 10 and May 16, 2012. The Agency informed the Board that it also mailed notices of the petition to elected officials, consistent with 35 Ill. Adm. Code 104.214(b). Agency Resp. at 3.

The Act requires the Agency to investigate each variance petition and "make a recommendation to the Board as to the disposition of the petition." 415 ILCS 5/37(a); 35 Ill. Adm. Code 104.216. On July 23, 2012, the Agency filed a document titled "Recommendation" stating that the Agency "neither supports nor objects to the [Board] granting the Petition subject to the terms and conditions contained herein." Agency Resp. at 1. Within 14 days after service of an Agency recommendation, the petitioner may file a response to the Agency recommendation or an amended petition. 35 Ill. Adm. Code 104.220. AER made no such filing.

The Board will hold a hearing on a variance petition (1) if the petitioner requests a hearing; (2) if the Agency or any other person files a written objection to the variance within 21 days after the newspaper notice, together with a written request for hearing; or (3) if the Board, in its discretion, concludes that a hearing is advisable. *See* 415 ILCS 5/37(a); 35 Ill. Adm. Code 104.224, 104.234. In the petition, AER waived hearing. Pet. at 32. On May 31, 2012, the Board received two objections to the petitions, discussed in more detail below: (1) Objection of Environmental [sic] Illinois, Environmental Law and Policy Center (ELPC), Natural Resources Defense Council, Respiratory Health Association of Metropolitan Chicago (RHA), and Sierra Club; and (2) Objection of Environment Illinois, ELPC, RHA, and Sierra Club. However, each of these objections expressly stated that they do not request a hearing pursuant to 35 Ill. Adm. Code 104.224(c). Nevertheless, based on the filings received, including numerous public comments, the Board concluded that a hearing was warranted in this case. *See also, infra*, p. 6, n. 3.

In advance of the hearing, the Board's hearing officer, Carol Webb, issued two sets of questions to AER to clarify points raised in the petition. The hearing officer issued the first set of questions on July 6, 2012 and the second set of questions on July 25, 2012. AER filed two sets of responses to the hearing officer's questions on July 30, 2012: AER's Responses to the Illinois Pollution Control Board Technical Unit's Questions (AER First Resp.); AER's Responses to the Illinois Pollution Control Board Technical Unit's Second Set of Questions (AER Second Resp.).

The Board held the public hearing on August 1, 2012 in Springfield. AER and the Agency appeared as participants in the hearing. AER presented testimony from two witnesses. In addition to hearing testimony, the Board received 90 oral public comments during the hearing. The Board received the transcript of the August 1, 2012 hearing on August 2, 2012. AER filed a post-hearing brief (AER Post Br.) on August 15, 2012. IEPA filed a post-hearing brief on August 20, 2012. On August 23, 2012, AER filed an additional post-hearing comment (AER post comment) and a motion to file the comment *instanter*.

In addition to the oral public comments received at the hearing, the Board has received 3,002 written public comments. Two comments were submitted to the Agency and the Agency attached the letters to its response. These two comments are substantially similar to public comments filed with the Board by the same parties. The deadline for filing public comments was August 10, 2012. The Board notes that the number of public participants is greater than the 3,002 comments received, as some public comments were signed by more than one individual. *See, e.g.*, PC#2197 (signed by six individuals), and PC#2648 (signed by 85 individuals). The Board received an additional 119 public comments following the close of the public comment deadline.[2]

[2] Public comments 2,995 through 3,005 consist of 2,372 letters urging the Board to deny AER's variance request. In the interests of administrative economy, the Clerk's Office batched a number of identical, late-filed public comments, assigning one number to groups of comments with similar text.

## AER POST-HEARING MOTIONS

On August 15, 2012, along with AER's post-hearing brief, AER filed a motion for waiver of page limitation (Waiver Mot.). AER states it

> 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. Waiver Mot. at 1.

AER therefore requests that the Board grant it a waiver of the 50-page limitation. *Id.* at 2. The Board did not receive any objections to granting of the motion. The Board has received a total of 3,005 public comments in this docket.

On August 23, 2012, AER filed a motion to file *instanter* (AER Post Mot.) a public comment regarding an August 21, 2012 decision of the United States Court of Appeals for the D.C. Circuit. AER Post Mot. at 1; *see also* Petitioner's Post-Hearing Comment at 1, *citing* E.M.E. Homer City Generation, L.P. v. Environmental Protection Agency, *et al.*, No. 11-1302 (D.C. Circuit, Aug. 21, 2012). The Court's decision vacated the Cross-State Air Pollution Rule (CSAPR) and AER noted that the vacatur "directly relates to a question by a Board member at hearing." *Id.* at 2.

To ensure a complete record, the Board grants both of AER's motions.

## STATUTORY BASIS FOR ISSUING VARIANCE

A "variance is a temporary exemption from any specified rule, regulation, requirement or order of the Board." *See* 35 Ill. Adm. Code 104.200(a)(1). Under Title IX of the Act (415 ILCS 5/35-38), the Board is responsible for granting variances when a petitioner demonstrates that immediate compliance with a Board regulation would impose an "arbitrary or unreasonable hardship" on petitioner. 415 ILCS 5/35(a). Specifically, the Act provides:

> The Board may grant individual variances beyond the limitations prescribed in this Act, whenever it is found, upon presentation of adequate proof, that compliance with any rule or regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship. However, the Board is not required to find that an arbitrary or unreasonable hardship exists exclusively because the regulatory standard is under review and costs of compliance are substantial and certain. 415 ILCS 5/35(a); *see also* 35 Ill. Adm. Code 104.200, 104.208, 104.238.

The Board may grant a variance, however, only to the extent consistent with applicable federal law. 415 ILCS 5/35. Further, the Board may issue a variance from any regulation with or without conditions, and for a period of time not exceeding five years. *See* 415 ILCS 5/36(a) and (b).

The burden of proof is on the petitioner. 415 ILCS 5/37(a); 35 Ill. Adm. Code 104.200(a)(1), 104.238(a). The petitioner must prove that immediate compliance with Board

regulations would cause an arbitrary or unreasonable hardship that outweighs public interest in compliance with the regulations. *See* Willowbrook Motel v. PCB, 135 Ill. App. 3d 343, 349-50, 481 N.E.2d 1032, 1036-37 (1st Dist. 1985).

## BACKGROUND OF THE MULTI-POLLUTANT STANDARD

In 2005, the United States Environmental Protection Agency (USEPA) promulgated regulations requiring reduction of nitrogen oxide ($NO_x$), $SO_2$, and mercury. *See* 70 Fed. Reg. 25162 (May 12, 2005); 70 Fed. Reg. 28606 (May 18, 2005). The Agency proposed rules to the Board to implement both federal rules. The first rulemaking was Proposed New 35 Ill. Adm. Code 225 Control of Emissions from Large Combustion Sources (Mercury), R06-25 (Dec. 21, 2006). This rule amended 35 Ill. Adm. Code Part 225 Subpart A and added Subpart B. The second rulemaking was Proposed New Clean Air Interstate Rules (CAIR) $SO_2$, $NO_x$, Annual and $NO_x$ Ozone Season Trading Programs, 35 Ill. Adm. Code 225, Subparts A, C, D, E, and F, R06-26 (Aug. 23, 2007).

As a result of these rulemakings, under Part 225 "Control of Emissions from Large Combustion Sources," affected utilities are provided with two compliance options for reducing emissions: One option imposes stringent limits on mercury emissions alone and the other option requires implementing mercury control technology in conjunction with emission limits for $SO_2$ and $NO_x$. This second option is found at Section 225.233 and is referred to as the Multi-Pollutant Standard (MPS). 35 Ill. Adm. Code 225.233. On December 27, 2007, AER opted into the MPS for the AER MPS Group. Pet. at 12.

In 2008, AER petitioned the Board for a variance from the 2013 and 2014 $SO_2$ emission rates (0.33 lb/mmBtu or a rate equivalent to 44% of the Base Rate of $SO_2$ emissions, whichever is more stringent) found at Section 225.233(e)(2). Pet. at 6; Ameren Energy Generating Co. et al. v. Illinois Environmental Protection Agency, PCB 09-21 (Jan. 22, 2009). The Board denied that variance request as not being the proper regulatory relief mechanism. *Id.* AER then participated in the rulemaking captioned Amendments to 35 Ill. Adm. Code 225: Control of Emissions from Large Combustion Sources (Mercury Monitoring), R09-10 (June 18, 2009). As a result, the Board promulgated a final rule which included adding subsection (3) to Section 225.233(e), titled "Ameren MPS Group Multi-Pollutant Standard." Accordingly, Sections 225.233(e)(3)(C)(iii) and (iv), which are the subject of this variance request, became effective on July 15, 2009. *Id.* at 6-7; Agency Resp. at 5.

The specific rule provisions from which AER now seeks relief are:

Section 225.233 Multi-Pollutant Standard (MPS)

e) Emission Standards for $NO_x$ and $SO_2$

. . .

3) Ameren MPS Group Multi-Pollutant Standard

. . .

C) $SO_2$ Emission Standards

. . .

iii) Beginning in calendar year 2015 and continuing in calendar year 2016, for the EGUs in the Ameren MPS Group, the owner and operator of the EGUs must comply with an overall $SO_2$ annual emission rate of 0.25 lb/million Btu.

iv) Beginning in calendar year 2017 and continuing in calendar year thereafter, for the EGUs in the Ameren MPS Group, the owner and operator of the EGUs must comply with an overall $SO_2$ annual emission rate of 0.23 lb/million Btu.

On June 24, 2011, the Agency submitted a revision to the Illinois State Implementation Plan (SIP) addressing regional haze. *See* 77 Fed. Reg. 3966 (Jan. 26, 2012); Pet. at 29. The Illinois regional haze plan addresses Section 169A of the Clean Air Act (CAA) (42 U.S.C. 7491) to remedy impairment of visibility in Class I areas such as national parks and wilderness areas. 77 Fed. Reg. 3966. The Illinois submittal to USEPA included adding Sections 225.233(e)(3)(C)(iii) and (iv), the subject of this variance petition, to the Illinois SIP. Pet. at 30, Exh. 12. On January 26, 2012, USEPA proposed approval of Illinois' submittal. 77 Fed. Reg. 3966. As of the date of filing the petition, USEPA had not yet taken final action on this proposal. Pet. at 29. On July 6, 2012, during this variance proceeding, USEPA approved the Illinois submittal. 77 Fed. Reg. 39943. USEPA granted final approval for Illinois' Regional Haze SIP as proposed by Illinois which means Sections 225.233(e)(3)(C)(iii) and (iv) are part of the Illinois SIP effective August 6, 2012[3]. *Id.*

## AER'S VARIANCE PETITION

AER petitioned the Board for a variance from Section 225.233(e)(3)(C)(iii) and (iv) of the MPS seeking additional time to comply with the overall $SO_2$ annual 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 [p]roject) in time to meet those rates. By seeking relief now, which is critical from a timing standpoint, AER will conserve cash flow and stave off draconian operational measures with the hope that stability will eventually return to the marketplace thereby allowing the completion of the Newton FGD project. Pet. at 1-2.

[3] Since the MPS is now part of the Illinois SIP, the State of Illinois must hold a public hearing or provide the public the opportunity to request a public hearing on this variance request. 40 C.F.R. § 51.102(a).

AER states that, contrary to positions advocated by the Citizens Groups, its decision to opt-in to the MPS "was not an 'agreement' or the 'functional equivalent of a contract' . . . but rather a decision to be subject to one Illinois regulation as opposed to another." AER Post Br. at 6. AER believes that its request "fulfills the purpose of the variance process" and that asking for more time to comply "is the responsible thing to do given that [AER]'s compliance plan offsets any potential adverse impacts to human health and the environment." *Id.*

## Corporate Structure

AER is a subsidiary of Ameren Corporation. Affidavit of Ryan J. Martin (Pet. Exh. 6) at 2. Ameren Corporation is a public utility holding company whose primary assets are the common stock of its subsidiaries, including AER, Ameren Missouri and Ameren Illinois. *Id.* Ameren Corporation's subsidiaries "are separate, independent legal entities with separate businesses, assets, and liabilities." *Id.* AER consists of merchant generating operations that include Ameren Energy Generating Company (GENCO) and Ameren Energy Resources Generating Company (AERG). *Id.* GENCO is AER's only publicly-registered and rated company. *Id.* GENCO is a registered company with the Securities and Exchange Commission, and its financials are publicly reported. *Id.* at 3.

Illinois deregulated its electricity market in 1997. Pet. at 3, fn. 3. At that time, Ameren Corporation's rate regulated utilities transferred generating facilities formerly owned by Central Illinois Public Service Company (CIPS) and Central Illinois Light Company (CILCO) into GENCO and AERG. AER owns, respectively, the former CIPS plants (Newton, Coffeen, Meredosia and Hutsonville) and the former CILCO plants (Duck Creek, E.D. Edwards). *Id.* In addition, AER owns 80% of the common stock of Electric Energy, Inc., which operates the Joppa Energy Center. *Id.*

## Facilities

AER owns seven coal-fired electric generating stations in Illinois. Pet. at 4. These seven stations constitute the AER MPS Group and include 21 electric generating units. Pet. at 4, n. 6. As of January 2012, AER ceased operation of the Meredosia (Morgan County) and Hutsonville (Crawford County) stations but generates electricity at the remaining five stations: Coffeen (Montgomery County), Duck Creek (Fulton County), E.D. Edwards (Peoria County), Joppa (Massac County), and Newton (Jasper County). Pet at 4-5. AER employs approximately 750 persons at the facilities in the AER MPS Group. Pet. at 6.

The principal emissions at AER's plants are $SO_2$, $NO_x$, and particulate matter. Pet. at 5. The counties where AER plants are located are designated as attainment for all pollutants. *Id.* AER controls $SO_2$ emissions with pollution control equipment, specifically three flue gas desulfurization units at the Duck Creek and Coffeen stations, and by using low-sulfur coal or blending low sulfur coal with Illinois coal. *Id.* AER controls $NO_x$ emissions using low $NO_x$ burners, over-fired air, selective catalytic reduction systems, and burning combinations of low-sulfur coal. *Id.* AER controls particulate matter using flue gas conditioning and electrostatic precipitators. *Id.* AER controls mercury emissions using scrubbers and sorbent injection. *Id.*

## Relief Requested

In its initial petition, AER seeks a variance from Section 225.233(e)(3)(C)(iii) for five years, beginning January 1, 2015 and ending December 31, 2019, and from Section 225.233(e)(3)(C)(iv) for four years, beginning January 1, 2017 and ending December 31, 2020. Pet. at 7. In its response to questions from the Board, AER informs the Board that, after discussions with the Agency, AER revises its request to return to compliance with Section 225.233(e)(3)(C)(iv) regarding the 0.23 lb/mmBtu rate on January 15, 2020, rather than December 31, 2020. AER First Resp. at 1, AER Post Br. at 4. The date for return to compliance with the 0.25 lb/mmBtu rate will remain January 1, 2020. AER Post Br. at 4.

To meet the current overall $SO_2$ annual emission rates for 2015 and 2016 in Section 225.233(e)(3)(C)(iii), and for 2017 and beyond in Section 225.233(e)(3)(C)(iv), AER planned to install flue gas desulfurization equipment at the Newton station. *Id.* AER asserts that inadequate cash flow and borrowing restrictions make it unable to complete construction. *Id.* If the variance is not granted, AER claims that it "will need to mothball multiple units across [AER's] coal fleet, which may include E.D. Edwards, Joppa, and/or Newton units, so as to comply with the MPS overall $SO_2$ annual emission rates until such time as market prices recover to the level that the Newton FGD [p]roject is financially viable and installation can be completed." Pet. at 7-8. AER believes this to be its "only other viable compliance alternative." AER Post Br. at 2.

AER seeks this variance well in advance of the 2015 and 2017 compliance deadlines. Pet. at 7. AER asserts that the total length of the variance from both requirements "would allow for power price market conditions to improve and regulatory certainty at the federal level to crystallize." Pet. at 8. AER argues that this variance does not request a variance exceeding five years. *Id.*

AER does not seek a change to $NO_x$ limits or mercury control requirements. Pet. Exh. 7.

## Compliance Plan

AER states it has complied with mercury and $NO_x$ requirements set forth in the MPS. AER Post Br. at 32. AER would further implement a compliance plan that "results in a net environmental benefit" and "mitigates the environmental impact represented by extending the $SO_2$ compliance dates set forth in the MPS" if the variance is granted. *Id.*

In its initial petition, AER proposes that the AER MPS Group will meet an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu from 2012 through 2019. Pet. at 9. AER anticipates achieving this rate by continuing to not operate at the Hutsonville and Meredosia stations and "maximizing FGD performance" at Duck Creek and Coffeen. *Id.* AER will continue to burn low-sulfur coal from the Powder River Basin at the five operating stations. *Id.*

In its response to questions from the Board, AER informed the Board that AER has revised its proposed compliance plan. AER proposes to return to compliance with the 2015 overall $SO_2$ annual emission rate on January 1, 2020 and with the 2017 overall $SO_2$ annual rate

by January 15, 2020. AER First Resp. at 1-2. In addition, AER proposes to meet an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019, lowered from 0.38 lb/mmBtu. *Id.* at 1. AER will meet this revised rate by not operating the Hutsonville and Meredosia stations during the variance term. *Id.* at 2. AER will also operate FGD systems at the Duck Creek and Coffeen stations at a higher level of control. *Id.* Specifically, AER will operate the FGD systems at a 98%-99% $SO_2$ removal rate rather than 95% which will also require "auxiliary power, the increased sizing of equipment, and increased limestone usage." *Id.* at 8. AER estimates that capital expenditures to operate the Duck Creek and Coffeen stations FGD systems at 98%-99% will be $5 million in capital costs and $173,337 in annual operating and management costs. *Id.* AER also intends to procure lower-sulfur coal for its operations. AER Post Br. at 5. AER asserts that, by taking these steps, it will achieve an emission rate of 0.35 lb/mmBtu. *Id.* at 5. AER contends that this compliance plan "provides a net environmental benefit with respect to $SO_2$ emissions." *Id.* at 3.

AER expects to continue construction at Newton to complete the FGD project. Pet. at 9. AER has procured "all major equipment components" needed for the Newton FGD project. *Id.* AER "expects to continue" site preparation, foundation work, and duct work fabrication "over the next few years." *Id.* Field construction "could take approximately 24 months to complete once the project ramps back up." *Id.* Extending site preparation and construction over several years will "position AER for compliance with the 2015 [overall] $SO_2$ annual emission rate by January 1, 2020." *Id.* AER has incurred $237 million in the Newton FGD project to date. *Id.* at 19. By the end of 2012, AER will have spent over 50% of the project cost. *Id.*

In response to questions from the Board, AER provided additional detail on the construction plans for the Newton FGD project. AER has scheduled construction work during 2012 and 2013. AER First Resp. at 6. During this time, all major equipment will be delivered to the site and rough set; AER will also fabricate ductwork and construct the absorber building. *Id.* Engineering design is 65% complete. *Id.* Engineering design will be completed in 2014. *Id.* AER has budgeted $16 million per year from 2013 to 2016 and greatly increased capital expenditures in 2018 and 2019 to complete the Newton FGD project. Pet. at 19; AER First Resp. at 6; Tr. at 32; AER Post Br. at 38, 40.

The Board requested that AER provide an estimated timeline for phases of the compliance plan including engineering, site preparation, foundation work, duct work, fabrication, field construction activities, startup, and any other significant phases. AER proposes instead to provide the Board with progress reports on construction activities. AER First Resp. at 6. AER states this is because it is difficult to provide a specific and targeted prospective schedule beyond the categories of work previously provided to the Board. AER Post Br. at 38. AER contends that a specific timeline establishing construction and project milestones cannot be provided until an in-service date is fixed. *Id.* AER states "[o]nce 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. *Id.* AER does note that if relief is granted, AER'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. *Id.*

AER further states that it is unable to provide a date certain by which AER will know if completion of the scrubber project is feasible before the January 15, 2020 deadline. AER Post Br. at 40. However, AER contends that its compliance plan is premised on a commitment "that meaningful engineering, procurement and construction activities" will continue throughout the variance period, committing to spend roughly $16 million per year from 2013 to 2016 with a call for greatly increased capital expenditures in 2018 and 2019 to complete the Newton FGD project. Pet. at 19; AER First Resp. at 6; Tr. at 32; AER Post Br. at 38, 40.

**Arbitrary or Unreasonable Hardship**

AER argues that compliance with the 2015 and 2017 overall $SO_2$ annual emission rates in the MPS by the current deadlines will impose an arbitrary or unreasonable hardship for AER. Pet. at 11. AER states that this hardship was not self-imposed (AER Post Br. at 7), but rather that AER is the victim of a "crippling double-whammy." Pet. at 11. First, Illinois promulgated regulations to implement the federal Clean Air Mercury Rule (CAMR) and Clean Air Interstate Rule (CAIR). *Id.* These federal rules were subsequently invalidated while the Illinois MPS remained in effect. *Id.* In the absence of these federal rules, Illinois requirements are more strict than surrounding states. *Id.* Second, Illinois electric generators must fund capital projects such as pollution control equipment with revenues rather than captive consumer rates. *Id.* Illinois' deregulated electric market also creates a disadvantage for Illinois generators compared to competitors in nearby states. *Id.*

AER states that it did not delay in choosing a plan to comply with the MPS or in deciding to seek relief from the Board. AER Post Br. at 7. Rather, AER knew it did not have the cash flow to timely complete the Newton FGD project within only a few short months of the sharp decline in power prices due to lowest demand in decades because of the recession, the exceptionally mild winter, and an increased supply of natural gas. *Id.*

**Regulatory Uncertainty**

AER contends that it opted into the MPS in 2007 with the expectation that future federal regulatory requirements were imminent. Pet. at 11. AER summarizes the development of certain federal air pollution rules and their implementation in Illinois. Pet. at 11-16. In 2005, USEPA promulgated regulations requiring reduction of $NO_x$ and $SO_2$ emission known as CAIR, 70 Fed. Reg. 25162 (May 12, 2005) and reduction of mercury emissions known as CAMR, 70 Fed. Reg. 28606 (May 18, 2005). Both rules applied to coal-fired electric generating units, and specifically to AER's coal-fired electric generating units. Pet. at 11-12.

The Agency proposed rules to the Board to implement both federal rules. The first rulemaking was Proposed New 35 Ill. Adm. Code 225 Control of Emissions from Large Combustion Sources (Mercury), R06-25 (Dec. 21, 2006). The second rulemaking was Proposed New Clean Air Interstate Rules (CAIR) $SO_2$, $NO_x$, Annual and $NO_x$ Ozone Season Trading

Programs, 35 Ill. Adm. Code 225, Subparts A, C, D, E, and F, R06-26 (Aug. 23, 2007). AER recounts that during these proceedings, AER approached the Agency with a comprehensive proposal to address mercury in coordination with other air emission requirements. Pet. at 12. These negotiations between AER and the Agency resulted in promulgating Section 225.233 in the Board's R06-25 proceeding. *Id.*

Subsequently, in February 2008, a federal court vacated the federal CAMR. Pet. at 13, *citing* State of New Jersey v. Environmental Protection Agency, 517 F.3d 574 (D.C. Cir. 2008). Shortly thereafter, a federal appellate court remanded the federal CAIR to the lower court but ordered that CAIR remain effective until replaced with a new rule. Pet. at 13, *citing* North Carolina v. Environmental Protection Agency, 550 F.3d 1176 (D.C. Cir. 2008). After these decisions, the MPS presented "significantly more confining constraints for Illinois generating companies that had opted into the MPS." Pet. at 13-14. AER states "the impacts of having an uneven playing field [then] began revealing themselves." Pet. at 14.

AER states "these judicial decisions, coupled with pending greenhouse gas emission regulations, severe market liquidity conditions, and the near collapse of the banking system first presented difficulty for the [AER] MPS Group in 2008." Pet. at 14. At that time, AER sought additional time to comply with the 2013 $SO_2$ overall annual emission rate in the MPS "to avoid stranded costs of compliance." *Id.* This additional time allowed AER "to make more educated and sustainable investment decisions on how to comply with the MPS in light of the regulatory uncertainty on both the federal and regional levels." *Id.*; *see also* Ameren Energy Generating Co., et al v. IEPA, PCB 09-21 (Jan. 22, 2009); *and* Amendments to 35 Ill. Adm. Code 225: Control of Emissions from Large Combustion Sources (Mercury Monitoring), R09-10 (Jun. 18, 2009).

In August 2011, USEPA adopted CSAPR to replace CAIR. Pet. at 14; 76 Fed. Reg. 48208 (Aug. 8, 2011). CSAPR was challenged in federal court and the court stayed implementation of the rule. Pet. at 14, *citing* EME Homer City LP v. Environmental Protection Agency, No. 11-1302 (D.C. Cir. Dec. 30, 2011). In its petition, AER contends that the fate of CSAPR is uncertain and argues that "the very basis of the MPS – that is, an effective and permanent federal program – has yet to become a reality." Pet. at 14. AER argues that it will suffer arbitrary and unreasonable hardship if required to comply with the MPS due to the uncertainty of whether the CSAPR will be implemented. *Id.* at 15. AER states that it ceased operations at the Hutsonville and Meredosia stations because it faced "deteriorating market conditions and compliance with what was anticipated to be an effective CSAPR program in 2012 compounded by other environmental mandates." *Id.*

AER argues that the federal court order staying implementation of CSAPR has national implications, exacerbated in Illinois. Pet. at 15. AER makes two arguments as to why Illinois-specific MPS requirements cause it an arbitrary or unreasonable hardship.

First, the MPS requires Illinois electric generating units to control $NO_x$ and $SO_2$ emissions "even in the absence of a permanent and effective federal emission program like CAIR." Pet. at 15. CSAPR, the replacement for CAIR, was scheduled to take effect on January 1, 2012 but was stayed. AER concludes that "it is now unknown when or if CSAPR will become

effective." *Id.*[4] AER argues that it is arbitrary and unreasonable to require it to comply with the MPS if there is no federal program requiring that level of control. *Id.*

Second, AER argues that Illinois-specific MPS requirements place it at a competitive disadvantage with nearby states. Pet. at 16-17. AER asserts that it faces "significant challenges that limit their ability to access third party capital to continue to invest in state and federally-mandated environmental control equipment." *Id.* at 16. AER states that it does not have revenue from a captive consumer base to fund environmental compliance costs because it is a "merchant generator in an unregulated or consumer choice market." *Id.* AER claims that it competes with generators in nearby states "that have neither deregulated their energy markets nor invested significant capital in environmental pollution control projects." *Id.* These companies are able to recover compliance costs through rates. *Id.* AER, as an unregulated power company, is only able to recover its costs through market driven prices and margins. Affidavit of Gary M. Rygh (Pet. Exh. 5) at 6. Further, AER claims it is at a significant financial disadvantage as a firm with coal-fired generating assets compared to companies with less carbon-intensive portfolios. *Id.* If the CSAPR had become effective on January 1, 2012, the CSAPR would have "level[ed] the playing field" between Illinois generators and competitors in nearby states. Pet. at 16-17. AER also states that, in contrast to comments received by the Board, AER did not seek deregulation. AER Post Br. at 9. Rather,

> it was one of the primary purposes of the [Illinois] Electric Service Customer Chose 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.
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> ***
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> While it is true [AER] was not compelled to effectuate this transfer, there was at the time a much greater incentive to do so than . . . portrayed in [the testimony of Mr. Rob Kelter on behalf of ELPC]. *Id.* at 9, 10.

AER claims that retail customers in Illinois are the great beneficiaries of the 1997 law and the Illinois Power Agency Act enacted in 2007. AER Post Br. at 12. AER had to provide $185 million in rate relief to customers "and other payments" as a result of the 2007 legislation. *Id.* AER's benefit from opting into the MPS was that the compliance date for one aspect of the regulation (compliance with the removal efficiency requirement) was delayed from July 2009 to January 2015. *Id.* at 49-50. AER concedes that its intended benefit

[4] The Board notes that, on August 21, 2012, during the pendency of this action, the United States Court of Appeals for the D.C. Circuit issued a ruling vacating CSAPR. E.M.E. Homer City Generation, L.P. v. Environmental Protection Agency, *et al.*, No. 11-1302 (D.C. Circuit, Aug. 21, 2012).

> was to align the MPS's $NO_x$ and $SO_2$ emission requirements with what AER believed to be its control strategy for compliance with then pending CAIR regulations. *Id.* at 51.

AER contends that this intended benefit has not occurred but "substantial and real reductions of $NO_x$ and $SO_2$ are still occurring." *Id.*

**Costs of Compliance**

AER argues that the costs of compliance with the MPS are substantial and certain. Pet. at 17. AER had analyzed these costs when the MPS was promulgated. *Id.* As noted above, the MPS was adopted during a proceeding to adopt controls on mercury emissions. *Id.* at 12. AER asserts that it "is on track" to meet the mercury emission requirements effective in 2015 which was "the driver behind the MPS." *Id.* at 17. However, AER claims that compliance with the 2015 and 2017 [overall] $SO_2$ annual emission rates is "no longer economically reasonable." *Id.*

AER identifies various previous expenditures to comply with the MPS. AER installed three scrubbers at two plants to control $SO_2$, mercury, and hazardous gas emissions. Pet. at 18. AER installed selective catalyst reduction (SCR) equipment to control $NO_x$ at three plants. *Id.* AER installed mercury controls. *Id.* AER spent over $1 billion "on the installation of pollution control facilities, including scrubbers, SCRs, landfills, cooling basins and towers, and precipitators, at Duck Creek, E.D. Edwards, Coffeen, and Newton, not including the Newton FGD [p]roject." *Id.* at 18, 21. Specifically, 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 pollution control facilities (*i.e.*, the Newton FGD project) at a cost of over $237 million. AER Post Br. at 31. AER also provides a chart that "details the various pollution control devices installed at the Coffeen, Duck Creek, E.D. Edwards, Joppa and Newton Energy Centers." *Id.* at 32-36.

AER plans to construct two FGD units at the Newton station. Pet. at 18. The project includes constructing a new chimney with separate flues for each unit, new induced draft fans for each unit, and gypsum and limestone handling facilities. *Id.* at 19. AER has obtained a construction permit for the project and started "engineering, procurement and construction activities." *Id.* AER claims that it has spent $237 million to date on the project. *Id.* Through 2012, AER will have spent "over 50% of the project cost." *Id.* AER has slowed work on the project and will not complete it in time to meet the 2015 or 2017 overall $SO_2$ annual emission rates. *Id.* AER intends to proceed with the project in time to comply with the 2015 $SO_2$ emission rate by January 1, 2020 and the 2017 rate by January 15, 2020. *Id.*; AER First Resp. at 6.

AER claims that it can no longer fund the Newton FGD project in time to comply with the 2015 and 2017 $SO_2$ emission rates. Pet. at 19. Certain covenants within GENCO's bond indenture restrict GENCO's ability to incur additional indebtedness from external sources. Pet. Exh. 6 at 4. AER expects that, by the end of 2012, GENCO's interest coverage ratio "will fall below the minimum level required for GENCO to incur additional external debt." *Id.* at 5. GENCO "will not be able to borrow additional funds from third-party lenders to finance . . . the

installation of scrubbers at Newton" unless power price market conditions improve dramatically in the near term. *Id.* AER attributes the declining power prices to "the recession, the exceptionally mild weather this winter, and an increased supply of natural gas from shale gas." Pet. at 19. As evidence of declining prices, AER states that in 2006 and 2007 the price per megawatt hour was approximately $60 and in 2012 the price ranges from $29.50 to $33.60 per megawatt hour. *Id.* at 20.

Further, as of August 2012, AER's stock "hovers around $34," in contrast to its $50 - $54 asking price at the end of 2007 (AER Post Br. at 12) and AER's return on equity in 2010 was -3.9% and in 2011 was 4.3%. *Id.* at 13. AER states that there is currently uncertainty as to when its financial predicament will improve because, as a merchant generator, "[AER] has significant exposure to market prices, swings in load demand and commodity price volatility." *Id.* Declining power prices have reduced operating proceeds and adversely impacted AER's access to short-term and long-term financing. *Id.* With regards to capital that GENCO currently holds, AER states that "it is vitally important that GENCO preserve cash until market prices recover, operating results and cash flows improve, and borrowing capacity is restored." Pet. Exh. 6 at 6. This is in part due to an approximate $825 million in long-term public bonds that GENCO currently has outstanding. *Id.* An inability to pay these bonds when due "would likely lead to a GENCO bankruptcy." *Id.*

Additionally, AER contends that receiving funding from Ameren Corporation is not possible because AER as a "merchant business segment must be self-funding and its expenditures must be supported by its operating revenues." Pet. at 22. Ameren Corporation cannot assume unsecured debt on behalf of AER without a secure revenue stream to support such an obligation. *Id.* AER has no direct access to public financial markets because it is not a publicly-registered company. AER First Resp. at 4. According to AER, "credit rating agencies have been very clear" that adverse financial consequences on the ratings of Ameren Corporation would result if it were to lend additional monies to AER. Pet. at 22, *see also* Pet. Exh. 6 at 10-11. This is due to an "increasing negative view" of AER and its subsidiaries that prevents Ameren Corporation from investing in AER without adversely affecting its own credit quality and access to capital. AER First Resp. at 4. According to AER, the "credit rating agencies . . . have . . . made it abundantly clear that further support from the parent [Ameren Corporation] will have negative consequences on the credit quality of [Ameren Corporation] and its other subsidiaries." Pet. Exh. 5 at 10.

AER states that the People's criticism of Ameren Corporation's requirements that its subsidiaries stand on their own, in terms of maintaining viable cash flow, are unfounded. AER Post Br. at 14. AER notes that Ameren Corporation owns the common stock of AER and for Ameren Corporation to act as an ongoing funding source for AER "that cash flow would have to come from an operating unit such as one of the regulated utilities." *Id.*

AER, as a merchant power generator, has "significant exposure to market prices, swings in load demand and commodity price volatility." Pet. Exh. 5 at 2. AER's "financial health and access to capital have both been severely degraded." *Id.* at 3. This is partially due to low natural gas prices which have kept margins and cash flow under pressure for most unregulated power producers, including those that generate electricity using coal. *Id.* Since 2008, GENCO has seen

its credit rating cut three notches by Standard and Poor's and four notches by Moody's Investor Services. *Id.* These downgrades, in part, are because of "a precipitous decline in net income and cash flow during that time period." *Id.* AER states that the prospects of sourcing additional third-party capital are "bleak" given the experience of previous investors. *Id.* at 12. Therefore, AER's operating margins and cash flows "represent AER's only mechanism for funding both operating activities and capital investment. Pet. Exh. 6 at 9. The current depressed levels of AER earnings and cash flows "are insufficient to fund large-scale capital projects such as the installation of the scrubbers [at Newton]." *Id.* at 3.

**Plant Closures**

AER asserts that with no "viable funding mechanism" for the Newton FGD project, AER's "only other compliance alternative" to comply with the overall $SO_2$ annual emission rate in the MPS is to close at least two plants, such as Joppa, E.D. Edwards, or Newton. Pet. at 23. AER hired consultant Development Strategies to perform an analysis of the economic impact of the E.D. Edwards and Joppa stations on Illinois and local economies. *Id.* at 24, Exh. 10. The report concludes that AER puts $44.4 million in the local economy near the E.D. Edwards plant and $124,071,000 in the State's economy due to the plant. *Id.* The report concludes that AER puts $76.7 million in the local economy near the Joppa station and $214,221,000 in the State's economy due to the Joppa station. *Id.* The two plants employ 274 persons and "supported an additional 1209 total jobs held by Illinois residents." *Id.*

AER claims that closing plants "will indirectly impact Illinois electricity consumers." Pet. at 25. AER sells power into a regional transmission organization known as the Midwest Independent Transmission System (MISO). Affidavit of Shawn E. Schukar (Pet. Exh. 11) at 2. According to Mr. Schukar, the Newton, Joppa and Edwards plants are among the more efficient units in the MISO footprint. *Id.* This efficiency is measured in heat rates where a lower heat rate indicates more efficient units. *Id.* The closing of these plants would lead to "a greater utilization of generating units that are less efficient and have higher marginal costs." *Id.* The market would need to replace the energy from those units with energy from other units that cost more. *Id.* As a result "there will be less competition in AER's area, which will negatively affect markets." Pet. at 25. AER concludes that "power prices would likely increase appreciably for consumers." *Id.*

**Natural Gas**

AER notes that the current economic conditions that it faces "go beyond any price declines that were foreseeable when the 1997 law was passed or even when the MPS was enacted in 2006." AER Post Br. at 10. Additionally, the new methods of gas extraction are a "game-changing" technology that have "fundamentally altered" the outlook for gas supplies and pricing. *Id.* AER contends that the MPS was premised on the expectation that the power market would continue to support the capital expenditures necessary to meet proposed emission rates. *Id.* However, "[m]arket conditions and new technologies and policies that have come about since that time were not self-imposed and simply not foreseeable." *Id.*

## Environmental Impact

AER contends that it has "exceeded the legal standard of 'to minimize the impact,'" and has structured the requested variance to "offset the impact resulting in a net environmental benefit." AER Post Br. at 25. AER notes that the Agency concurs with this position. *Id.*

### Sulfur Dioxide

AER claims it has achieved "a steady and significant decline in $SO_2$ emissions across [AER's] fleet--79% since 1990 and 23% over just the last four years." AER Post Br. at 30. For 2011, AER stated its overall $SO_2$ emission rate for the AER MPS Group, including the Meredosia and Hutsonville stations, was 0.46 lb/mmBtu. Pet. at 5; AER First Resp. at 7. Using 2011 as a baseline and removing the contributions of the Meredosia and Hutsonville stations, AER projects that its overall $SO_2$ annual emission rate in 2012 will be 0.40 lb/mmBtu. AER First Resp. at 7-8. Section 225.233(e)(3)(C)(i) requires AER to achieve a rate of 0.50 lb/mmBtu in 2011 and 2012. 35 Ill. Adm. Code 225.233(e)(3)(C)(i).

In Table 1 of its petition, AER presents its estimated $SO_2$ emissions from 2010 through 2021 using the currently required overall $SO_2$ annual emission rates in Section 225.233(e)(3)(C)(i), (ii), (iii), and (iv). Pet. at 26. AER used a baseline heat input of 340,446,252 mmBtu/year, which was the input AER used to support its proposed addition of Section 225.233(e)(3) in R09-10 in 2009, averaging 2006, 2007, and 2008 data, and includes Hutsonville and Meredosia. Pet. Exh. 7 at 3, 5; AER First Resp. at 8-9, fn. 11. In its petition, AER estimates that $SO_2$ emissions from the AER MPS Group will total 694,510 tons from 2010 through 2021 if the variance is not granted and AER complies with the MPS. Pet. at 26. AER refers to this calculation as its MPS baseline $SO_2$ emissions. *Id.* In response to questions from the Board, AER applied the same rationale to calculate its MPS baseline $SO_2$ emissions from 2010 through 2020 as 655,359 tons, which is consistent with Table 1 of the petition if emissions from 2021 are not included. AER First Resp. at 8-9, Table 2.

As presented in AER's initial petition Table 1, if the variance is granted allowing AER to use an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu from 2012 through 2019, 0.25 lb/mmBtu in 2020, and 0.23 lb/mmBtu in 2021, AER estimates that it will emit 665,294 tons from 2010 to 2021. Pet. at 26. AER also used a heat input of 340,446,252 mmBtu/year, multiplied by the proposed variance emission rates to calculate emissions of "variance $SO_2$ tons" in Table 1. Pet. at 26; AER Second Resp. at 4. In its initial petition, AER calculates that these proposed variance conditions result in 29,217 fewer tons of $SO_2$ emissions from 2010 through 2021 than compliance with the MPS. Pet. at 26.

AER contends that its proposal for meeting an earlier, more stringent $SO_2$ emission rate than what is required by the MPS will result in lower $SO_2$ emissions and a net benefit to Illinois during the variance. Pet. at 26. Specifically, in its initial petition, AER proposes an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu on a yearly system average (with a 0.55 lb/mmBtu or less $SO_2$ coal on non-scrubbed units) from 2012 through 2019, which is lower than what currently is required by Section 225.233(e)(3)(C) for 2012, 2013, and 2014 but higher in 2015-2019. *Id.* at 26-27. AER asserts that its total $SO_2$ emissions from 2012 through 2021 will be lower if the

variance is granted. *Id.* at 27. These calculations rely on AER not operating the Hutsonville and Meredosia stations through 2021. *Id.* at 26.

In AER's initial petition, AER includes $SO_2$ emissions for past years 2010 and 2011 in demonstrating the projected emissions reductions. Pet. at 26, Table 1. The values for 2010 and 2011 under the column "variance $SO_2$ tons" are 70,560 and 72,539. *Id.* In response to questions from the Board, AER states these values are actual $SO_2$ emissions in 2010 and 2011, respectively. AER Second Resp. at 4. In 2010 and 2011, AER's actual $SO_2$ emissions were less than the baseline $SO_2$ tons due to "operation of FGD systems at high efficiencies and other operational measures to reduce emissions." *Id.* at 4-5. AER included 2010 and 2011 in its analysis of the impact of the variance on $SO_2$ emissions "to show the total tons of $SO_2$ reduced during the MPS period by the end of the requested variance term." *Id.* at 5.

AER subsequently revised its emission calculations resulting from the variance to account for its revised proposed $SO_2$ emission rate of 0.35 lb/mmBtu during the years 2013 through 2019. AER First Resp. at 9. In Table 2, AER used a heat input of 312,003,694 mmBtu for years 2012 through 2020 based on historic data from 2006, 2007, and 2008 but eliminating the heat inputs for the Meredosia and Hutsonville stations. AER First Resp. at 9, Table 2. Under Table 2, if the revised variance request is granted allowing AER to use an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019, AER estimates that it will emit 647,589 tons from 2010 through 2020. *Id.* AER calculates that the revised proposed variance conditions would result in 34,895 fewer tons of $SO_2$ emissions overall by 2020 than compliance with the MPS. *Id.* Using the same data in Table 2, AER provides another assessment of $SO_2$ emissions in Table 4, excluding years 2010 and 2011. AER calculates that from 2012 through 2020, the revised proposed variance conditions would result in 7,700 fewer tons of $SO_2$ emissions overall by 2020 than compliance with the MPS. AER Second Resp. Table 4.

In AER's Table 3 and post-hearing brief Exh. 4, AER accounted for "$SO_2$ Reduced Tons" based on lower actual emissions in 2010 and 2011 and fewer emissions from not operating Hutsonville and Meredosia. To be conservative, AER deducted from the reduced tons twice the new emissions from the FutureGen Project as 590 tons $SO_2$ per year before calculating the cumulative reductions that would result from the proposed $SO_2$ variance. AER Post Hearing Br. at 38-40, Exh. 4.[5] AER then calculates $SO_2$ tons under the variance based on the baseline heat input of 340,446,252 mmBtu, resulting in emissions of 691,106 tons of $SO_2$ under the variance and representing 60,669 fewer tons of $SO_2$ from 2010 through 2020 than compliance with the MPS. AER Post Br. at 38-40, Pet. Exh. 4.

[5] AER explained that FutureGen is a zero emission coal plant project being considered for the Meredosia Energy Center, however, the project is years away and would not impact operations at Meredosia during the variance period. AER went on to explain that, because emission offsets may be required for permitting of the project in the future, the Agency did not want offsets to be "double counted" in AER's calculations of net environmental benefit. AER therefore conservatively factored, by deducting from the $SO_2$ reduced tons, two times the projected emissions to account for FutureGen project (two times the projected FutureGen $SO_2$ emissions is 590 tons). AER Post Br. at 29, 39-40.

AER commissioned a review of the health effects of $SO_2$ in response to Board questions presented at hearing. AER Post Br. at 26; AER Post Br. Exh. 3. This report concludes that AER's emissions under the $SO_2$ variance are lower than the MPS emissions between 2012 and 2014, and higher from 2015 to 2019. *Id.* at 27. AER contends that the People, in determining excess emissions, have ignored emission reductions that will commence immediately. *Id.* at 28. AER's report determines that granting the variance "would result in an overall net benefit in terms of health effects." *Id.* at 43. AER's report also notes that

> simply establishing that a person who has been exposed to $SO_2$ experienced bronchoconstriction or a reduced expiratory volume is not proof that the exposure caused the effect. 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. *Id.* (internal citations omitted).

AER's report also refutes the People's position that additional harm would occur despite the overall reduction in tonnage of $SO_2$ emissions over the term of the variance. *Id*. at 44. Rather, AER's report concludes that there would be fewer adverse health effects overall. *Id.*

AER also cites a USEPA report prepared in support of the most recent $SO_2$ NAAQS review which found no causal relationship between long-term exposure to $SO_2$ and asthma, bronchitis, or respiratory symptoms. AER Post Br. at 44. AER does note that the report found a causal relationship between respiratory morbidity and short-term exposure to $SO_2$, but that these associations were very small and questions were raised regarding whether exposure and effect were causally associated. *Id.* In responding to public comments, AER states its report

> consistently showed that generalized comments claiming $SO_2$ caused respiratory illnesses including asthma relied on studies that either did not show statistically significant results or could not isolate the effects associated with $SO_2$ from confounding co-pollutants. *Id.* at 44-45.

These studies further do not control for lifestyle variables or regional disease patterns. AER Post Br. at 45. AER's report also contradicts the People's position "that any harm done cannot be offset through earlier emissions." *Id.*

**Nitrogen Oxides**

AER has achieved "a steady and significant drop in $NO_x$ emissions since 1990." AER Post Br. at 30. In 2011, the overall $NO_x$ emission rate for the AER MPS Group was 0.11 lb/mmBtu. Pet. at 5. Section 225.233(e)(3)(B)(ii) required AER to achieve a rate of 0.14 lb/mmBtu. 35 Ill. Adm. Code 225.233(e)(3)(B)(ii). Beginning in 2012, AER is required to achieve a rate of 0.11 lb/mmBtu. 35 Ill. Adm. Code 225.233(e)(3)(B)(iii). AER does not seek a change to applicable MPS $NO_x$ limits. Pet. Exh. 7.

**Mercury**

Starting January 1, 2015, each electric generating unit covered by the MPS must meet an emission standard of 0.008 lb mercury/GWh[6] gross electrical output. Pet. at 28; 35 Ill. Adm. Code 225.233(d)(1). AER does not seek a change to MPS mercury control requirements. Pet. Exh. 7.

AER installed activated carbon injection systems on twelve units at four stations to control mercury emissions at a capital cost in excess of $20 million. Pet. at 28. AER spends $17 million in annual operating costs for these systems, including purchasing activated carbon and fuel additives. *Id.* AER has installed four SCRs and three wet flue gas desulfurization systems to control mercury, $NO_x$ and $SO_2$. *Id.* AER spent $813 million to install the three wet flue gas desulfurization systems and spends approximately $3.5 million in annual operating and maintenance costs. *Id.* AER spent $177 million to install the SCRs and spends approximately $3.9 million in annual operating and maintenance costs. *Id.*

AER states, "The mercury reductions from AER's fleet are being achieved three years ahead of the compliance deadline set forth in the MPS." AER Post Hearing Br. at 40. AER contends that "[e]arlier than anticipated mercury reductions will also provide a benefit to human, plant, and animal life impacted by mercury emissions from the [AER] MPS Group fleet." Pet. Exh. 7.

**Greenhouse Gases**

AER asserts that it "continues to support research into clean coal technologies, voluntarily reduce greenhouse gas emission, and purchase offsets to address climate change." Pet. at 29. AER lists various examples and contends that it "continues to take action to reduce greenhouse gases." *Id.*

**Examined Alternatives**

In response to Board questions, AER explains that it evaluated a range of compliance alternatives. AER First Resp. at 2; AER Second Resp. at 2. AER notes that the installation of two scrubbers at Newton "would reduce emissions by approximately 17,500 tons of $SO_2$," which would result in lower emissions than the 16,000 tons of $SO_2$ AER would need to reduce to comply with the 2017 MPS emission rate. AER Post Br. at 15. AER contends that "[n]o other commercially available technology produces that level of removal efficiency." *Id.* AER contends that, contrary to positions taken by the People and the Citizens Groups, AER has considered all viable alternatives. *Id.* at 16. AER believes that measures suggested by 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

[6] "lb mercury/GWh" stands for pound of mercury per gigawatt hour.

> and requiring costly additional controls; or (b) would affirmatively worsen AER's financial predicament. *Id.*

**Curtailing Operations**

AER considered curtailing generation and determined that curtailing operations is not a viable compliance alternative. AER First Resp. at 2; AER Second Resp. at 2-3; Tr. at 22. AER contends that, although curtailing operations will reduce emissions, fixed operating costs essentially remain the same because the units are still operating, and less revenue is generated to pay those costs. AER First Resp. at 2. AER concludes that curtailing operations "puts AER as a whole in greater financial peril than unit shuttering." *Id.* This alternative "puts a greater number of jobs at risk" and "does not allow AER to recover financially so that the funding of the scrubber can be continued." Tr. at 22-23.

AER states that it examined the viability of reducing operations at Newton, Edwards and Joppa by varying degrees. AER Post Br. at 16. For AER to comply with the MPS $SO_2$ rates, it would have to lower capacity factors on such units between 22% and 38%. *Id.* AER states that the result of these tests was a negative cash flow and an inability to fund ongoing operations. *Id.* at 17.

**Low-Sulfur Coal**

As for burning low-sulfur coal, AER notes that the Coffeen and Duck Creek stations have wet FGD systems which allow them to burn a range of coals including higher-sulfur coal from the Illinois Basin. AER First Resp., n. 2. However, the Newton, Joppa, and E.D. Edwards stations burn low-sulfur coal as a compliance mechanism. *Id.* Although AER initially stated that it will "continue to burn low-sulfur coal from the Powder River Basin and manage operations as necessary to maintain compliance" (Pet. at 9), AER later committed to the use of ultra low-sulfur coal for some stations. AER Post Br. at 25. In order to comply with a $SO_2$ emission rate of 0.35 lb/mmBtu, AER states it will

> limit the use of Illinois Basin coal (roughly 6.2 lb/mmBtu[]) and the higher $SO_2$ 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. AER Post Br. at 25.

**Natural Gas**

AER 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. AER Post Br. at 23. AER states, 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. *Id.* at 23-24.

The resulting drop in utilization would lead to a reduction in revenue generated to cover fixed costs at the facility and across AER's system, and would result in a reduction in workforce. *Id.*

**Control Equipment**

AER states that it continues to implement operational measures to reduce emissions, which AER has done "voluntarily at a cost even prior to coming to this Board to ask for relief." AER Post Br. at 17. In response to questions from the Board, AER notes it has revised its proposed compliance plan to include operating FGD systems at the Duck Creek and Coffeen stations, at a higher level of control. AER First Resp. at 8; AER Second Resp. at 2. Specifically, AER will operate the FGD systems at a 99% $SO_2$ removal rate rather than 95% which will also require "auxiliary power, the increased sizing of equipment, and increased limestone usage." AER First Resp. at 8. Elsewhere, AER states that the FGD systems will operate with a range of 98% to 99% removal efficiency. AER Second Resp. at 2. AER estimates that capital expenditures to operate FGD systems at 99% will be $5 million in capital costs and $173,337 in annual operating and management costs. AER First Resp. at 8. AER states that even with maximizing the FGD systems, "compliance margins remain narrow and AER will need to employ operational strategies such as low-sulfur coal procurement and generation utilization in order to comply with the proposed emission rate." AER Second Resp. at 2.

AER has also evaluated dry sorbent injection to reduce $SO_2$ emissions. AER Second Resp. at 2. AER states that it would be difficult to use sorbent injection as a compliance method because removal levels range widely from 10% to 90% and would reduce its effectiveness as a compliance alternative. *Id.* In addition, sorbent injection increased mass loading on electrostatic precipitators (ESPs) which may trigger the need for additional controls such as a baghouse to control particulate matter. *Id.* AER already uses activated carbon injection on its non-FGD units which adds to mass loading on the ESPs. *Id.* AER summarizes "to comply with the MPS via sorbent injection would entail installation of such controls (and baghouses) at virtually all of AER's uncontrolled units across the system. The cost of such alternative would exceed the cost to complete the Newton scrubber." *Id.* Further, AER states that the use of dry sorbent injection would result in a significant increase above threshold levels of PM, "due to the size of the existing particulate control equipment and the use of [activated carbon injection (ACI)] for mercury control." AER Post Br. at 19. AER states that neither the People nor the Citizens Groups adequately account for the impact that such pollution control technologies would have on pollutants other than $SO_2$. *Id.* AER's preliminary permitting analysis

> reflects that the use of such materials in the quantities required to comply with the 2015 and 2017 $SO_2$ emission rates would exceed applicable particulate requirements thereby triggering significant additional capital and maintenance expenses to address such emission requirements. *Id.*

To comply with both the $SO_2$ and PM emission limits, AER would need to install additional particulate controls such as a fabric filter when using dry sorbent injection. *Id.* at 22. AER retained third-party engineering firms to assess the viability of "a host of technologies," at Joppa and Edwards, including the use of dry sorbent injection. AER Post Br. at 15. The cost of

installing dry sorbent injection plus fabric filters at Joppa and Edwards was $433 million and $280 million, respectively. *Id.* This well exceeds the approximate $200 million to $250 million needed to complete the Newton FGD project. *Id.* at 23. AER concludes "there is no cost effective or otherwise viable alternative that 'minimizes the deviation.'" *Id.*

In response to the People's comments (PC#2410 at 3), AER differentiated the option of dry sorbent injection from dry scrubbers. AER Post Br. at 18. AER explained that dry sorbent injection would require relatively minor pieces of equipment to feed the sorbent material into ductwork, in addition to controls, such as baghouses, at virtually all of AER's uncontrolled units across the system. *Id.*; AER Second Resp. at 2. The cost of installing dry sorbent injection plus fabric filters at Joppa and Edwards was $433 million and $280 million, respectively, and exceeds the costs to complete the Newton FGD project. AER Post Br. at 15, 23. In contrast, AER explained that a dry scrubber would require construction of a multi-storied building and spray tower. Since dry scrubbers have removal efficiencies in the low 90% range, AER would need to install six dry scrubbers at Joppa to achieve the reductions approaching those projected for the wet FGD project at Newton. AER estimated costs for installation of dry scrubbers would be $460 million, nearly twice the cost of completing the FGD project at Newton. *Id*. at 18. Further, AER notes that installation of dry scrubbers "may be ineffective in addressing hazardous gas emissions and, without additional add-on controls, could adversely affect impact particulate emissions." *Id.*

## Compliance with Federal Law

AER contends that the Board may grant the requested variance consistent with federal law, and specifically, the Clean Air Act. Pet. at 29. On June 24, 2011, the Agency submitted a revision to the Illinois SIP to satisfy Illinois' obligation under the Clean Air Act to develop a Regional Haze SIP. *See* 77 Fed. Reg. 3966; Pet. at 29, 30. This submittal included adding Sections 225.233(e)(3)(C)(iii) and (iv), the subject of this variance petition, to the Illinois SIP. Pet. Exh. 12. AER concluded, at the time of its petition, that the proposal was not yet final and it was not clear when or if final adoption would occur. Pet. at 29; *But see, supra*, p. 6, citing 77 Fed. Reg. 39943 (final USEPA granted effective August 6, 2012).

AER asserts that its requested variance is consistent with federal regional haze requirements, including Best Available Retrofit Technology (BART). Pet. at 30-31. In its Regional Haze SIP revision submittal, the Agency relies on the MPS to address regional haze and argued that Part 225 $SO_2$ emission rates, including the rates applicable to the AER MPS Group, provide greater reductions than applying presumptive BART to BART-eligible units. Pet. at 30.

Nevertheless, AER contends that its requested delay in complying with the MPS $SO_2$ emission rates will be consistent with federal BART requirements. Pet. at 30. First, AER claims that the Agency concluded that particulate emissions from Illinois BART sources have negligible visibility impact using the threshold that a source contributes to reduced visibility if it impairs visibility by 0.5 deciviews. *Id.* Second, AER's proposed variance does not impact the Agency's BART demonstration in its Regional Haze SIP submittal. *Id.* at 31. The Agency relied on $SO_2$ emission reductions required under Part 225 by 2015. *Id.* at 30-31. AER believes the proposed

variance will provide even greater reductions than submitted by the Agency because AER proposes to reduce its emissions to 0.38 lb/mmBtu beginning in 2012 as opposed to 0.50 lb/mmBtu through 2013 and 0.43 lb/mmBtu during 2014. *Id.* at 31. Accordingly, AER's variance will result in lower $SO_2$ emissions than the Agency's estimates and does not impact the state's BART demonstration. *Id.* AER contends that, under the variance, emission reductions by AER's energy centers would be even greater by the BART compliance deadline in 2017 than would be achieved under the MPS. AER Post Br. at 36.

AER states it will comply with CSAPR when it becomes effective, which it believes to be less stringent than the MPS. Pet. at 31. AER contends determining a CSAPR compliance plan requires forecasting since it cannot assume that CSAPR will be upheld in its current form. AER Post Br. at 46. However, AER notes, based on the substance of the current form of CSAPR, AER's compliance strategy for CSAPR and the MPS overlap. *Id.* If the second phase of CSAPR 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. *Id.*

AER also states that it will comply with the federal Mercury and Air Toxics Standards (MATS) which became effective on April 16, 2012. Pet. at 32.

In AER's August 23, 2012 post-hearing comment, AER noted that the United States Court of Appeals for the D.C. Circuit vacated CSAPR in an August 21, 2012 decision and "sent USEPA back to the drawing board to address interstate air pollution under the CAA." AER Post Comment at 1. AER states that a compliance plan for CSAPR is "no longer necessary at this time." *Id.* at 2; *see also* E.M.E. Homer City Generation, L.P. v. Environmental Protection Agency, *et al.*, No. 11-1302 (D.C. Circuit, Aug. 21, 2012).

## Suggested Variance Conditions

In response to Board questions, AER proposes that in addition to being subject to an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019, AER agrees to the following variance conditions:

1. AER agrees not to operate the Hutsonville and 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 completion of the FGD system become infeasible, AER agrees to advise the Board and the Agency of alternative plans for compliance during the remaining term of the variance.

AER First Resp. at 11.

AER contends that the People's suggested two-year variance term

> 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. AER Post Br. at 47.

AER requests a five-year term based upon the regulatory structure of the MPS, the control strategy and construction timeline needed to comply, and the economic outlook over the next several years. AER Post Br. at 47. AER states the current request for relief is also based upon the need to synchronize both the construction and financing of the Newton FGD project. *Id.* at 48.

## AGENCY RESPONSE

The Agency filed a document titled "Recommendation" stating that the Agency "neither supports nor objects to the [Board] granting the Petition subject to the terms and conditions contained herein." Agency Resp. at 1. The Agency informs the Board that it "has engaged in conversations" with AER and reached "an understanding regarding $SO_2$ emission rates" that would be "acceptable" to the Agency. *Id.* at 7. Specifically, the Agency and AER have agreed to an alternative variance proposal where AER commits to complying with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from January 1, 2013 through December 31, 2019. *Id.* at 21. The Agency states that this alternative compliance proposal satisfies the Agency. *Id.* An overall $SO_2$ annual emission rate of 0.35 lb/mmBtu, together with ceasing operations at the Meredosia and Hutsonville stations, "would result in a net environmental benefit through 2021 greater than initially proposed" in the petition. *Id.*

In its response, the Agency stated it had received two written comments, but no requests for hearing. The Agency attached to its response the written comments from Michael Unes, State Representative, 91st District, and the Office of the Attorney General. Agency Resp. at 3, Agency Resp. Exh. 1 and 2.

## Agency Investigation of Facts in the Petition

The Agency summarizes AER's variance petition and requested relief. Agency Resp. at 1-2. The Agency recounts AER's description of its facilities and installation of pollution control equipment. *Id.* at 2, 4, 6. The Agency states that it "has investigated the facts alleged in Petitioner's Petition for Variance." *Id.* at 9. The Agency does not affirmatively state whether AER's presented facts are accurate but neither does it point to any errors by AER.

## Environmental Impact

The Agency confirms that AER has attached to its petition information as to nearby air emission monitoring stations. Agency Resp. at 10. The Agency agrees with AER that the seven counties where AER facilities are located are designated attainment for all pollutants. *Id.* at 2.

The Agency notes that AER has "voluntarily offered to meet an earlier more stringent $SO_2$ emissions rate in mitigation resulting in total $SO_2$ mass emissions lower than the projected emissions under the current MPS overall $SO_2$ annual emission rates." Agency Resp. at 10. The Agency notes that AER asserts that "by offering to meet this mitigation rate, the total projected $SO_2$ emissions from the [AER] MPS Group will be lower than anticipated under the current MPS from 2012 through 2021." *Id.* The Agency describes AER's request as offering to meet an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu $SO_2$ from 2012 through 2019 which is more stringent than the existing 2012 and 2013 rate of 0.50 lb/mmBtu and the 2014 rate of 0.43 lb/mmBtu. *Id.* at 10-11. The Agency notes that AER calculated that the variance would result in an overall $SO_2$ reduction of 29,217 tons for years 2010 through 2021 compared to the MPS. *Id.* at 11.

The Agency informs the Board that it has discussed with AER an alternative variance proposal "that will result in a greater decrease in $SO_2$ emission than contained under the MPS." Agency Resp. at 11. The Agency suggests that AER commit to complying with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019. *Id.* at 11. The Agency informs the Board that it has evaluated AER's $SO_2$ emission calculations and agrees that this alternative "will result in a greater net environmental benefit." *Id.* at 11. Thus, the Agency and AER agree that AER's compliance with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu yields an overall $SO_2$ reduction of 64,964 tons for years 2010 through 2021 as compared to expected $SO_2$ emissions under the MPS. *Id.* The Agency concludes "the Illinois EPA does not believe that any environmental harm will result if the Board were to grant" a variance requiring compliance with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019 together with ceasing operation of the Meredosia and Hutsonville stations. *Id.* The Agency notes that projected $SO_2$ emissions under the MPS are 694,510 tons for years 2010 through 2021 using 2009 heat input and projected $SO_2$ emissions under the alternative variance proposal are 629,547 tons for the same years. *Id.* at fn. 11.

In response to Board questions at hearing about the assertion by the Illinois Attorney General's Office that the MPS was not intended to be a 12-year averaging period of pollution reduction (PC#249 at 4), the Agency reiterated statements made in its recommendation, stating, "The Illinois EPA acknowledged that the use of emission offsets is a normal part of certain regulatory processes." Agency Post Br. at 2.

In order to provide support for an SIP revision, the Agency stated,

> [the Agency] has had preliminary discussions with USEPA Region 5 regarding a SIP revision for pending variance requests and no adverse issues were identified. Agency Post Br. at 2.

The Agency stated it will work with USEPA to determine the appropriate years for heat input values to support the SIP revision. Since the Agency's Regional Haze SIP used a 2002 baseline year in accordance with USEPA[7], the Agency noted that the SIP revision will likely use the same values. Agency Post Br. at 2-3.

## Arbitrary or Unreasonable Hardship

The Agency recounts AER's hardship arguments that "inadequate cash flow and restrictions on additional borrowings" preclude completing the installation of FGD units at the Newton station. Agency Resp. at 12-14. The Agency notes that AER claims that if the variance is not granted, AER will close multiple units which may include units at E.D. Edwards, Joppa, or Newton. *Id.* at 12.

The Agency notes that Board rules require the Agency to estimate the cost that compliance would impose on AER and on others. Agency Resp. at 12, citing 35 Ill. Adm. Code 104.216(b)(5). The Agency summarizes an analysis attached to AER's petition which concludes that AER puts $44.4 million into the local economy surrounding the E.D. Edwards station and that station has a $124,071,000 impact on the Illinois economy annually. Agency Resp. at 16. The report also finds that AER puts $76.7 million into the local economy surrounding the Joppa station and that station has a $214,221,000 impact on the Illinois economy annually. *Id.* However, the Agency concludes that it "is not able to estimate the costs that compliance would impose on [AER]" because AER did not include itemized calculations or supporting data as to cost factors. *Id.* at 17.

## Consistency with Federal Law

The Agency summarizes AER's assertion that the requested variance is consistent with federal law and AER's supporting arguments relating to compliance with BART, CSAPR, and MATS. Agency Resp. at 17-18. The Agency concludes that AER "is correct that there is currently no authority that precludes granting the instant variance request." *Id.* at 19. However, the Agency notes that "Illinois must still develop plans to attain and maintain the ozone and $PM_{2.5}$ National Ambient Air Quality Standards" and, "more importantly, must address its impact on downwind states pursuant to Section 110(a)(2)(D) of the [Clean Air Act]." *Id.*

The Agency notes that USEPA approved revisions to the Illinois SIP addressing regional haze. Agency Resp. at 19 *citing* 77 Fed. Reg. 39943 (July 6, 2012). Accordingly, the Agency informs the Board that it will submit the variance order, if granted by the Board, for approval as a revision to the Illinois SIP. Agency Resp. at 19. The Agency stated the "[Agency] has had preliminary discussions with USEPA Region 5 regarding an SIP revision for pending variance requests and no adverse issues were identified." Agency Post Br. at 2.

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[7] USEPA memorandum entitled "2002 Base Year Emission Inventory SIP Planning: 8-hr Ozone, $PM_{2.5}$ and Regional Haze Programs", November 18, 2002 (http://www.epa.gov/ttn/chief/eidocs/2002baseinven_102502new.pdf). Agency Post Br. at 2-3.

## Compliance Plan

The Agency recounts AER's compliance plan as initially proposed in its petition as providing: (1) compliance with an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu from 2012 through 2019; (2) the proposed rate commits AER to ceasing operations at Meredosia and Hutsonville; (3) the proposed rate commits AER to maximizing FGD performance at the Duck Creek and Coffeen stations; (4) burning low-sulfur coal from the Powder River Basin and managing operations as necessary to maintain compliance. Agency Resp. at 19. The Agency notes that AER expects to maintain "a continuous program of construction at the Newton Energy Center so as to be in a position to have the Newton FGD [p]roject completed and operational to meet compliance obligations." *Id.* at 20. The Agency states that after discussions with AER, AER has agreed to comply with an even lower overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from January 1, 2013 through December 31, 2019. [8] *Id.*

## Suggested Variance Conditions

The Agency stated its recommendation was contingent upon AER's petition "subject to the terms and conditions contained herein." Agency Resp. at 1. These terms consisted of requiring compliance with an overall 0.35 lb/mmBtu annual emission rate from January 1, 2013 through December 31, 2019 and maintained closures of the Meredosia and Hutsonville electric generating units through the pendancy of the variance.

AER also proposed providing progress reports on construction activities related to the Newton scrubber by the end of each calendar year during the term of the variance to both the Board and the Agency. AER First Resp. at 11. In response to Board questions at hearing (Tr. at 54), the Agency stated such reports should be sent to the Illinois EPA as follows:

Illinois Environmental Protection Agency
Attn: Ray Pilapil, Manager
Bureau of Air-Compliance Section
1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276

and

Illinois Environmental Protection Agency
Attn: Gina Roccaforte, Assistant Counsel
Division of Legal Counsel-Air Regulatory Unit
1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276

[8] Ameren requested the beginning of the variance to commence on January 1, 2015. Pet. at 1. Ameren revised the proposed variance term to conclude on January 15, 2020. Ameren Second Resp. at 5.

Agency Post Br. at 1.

**Agency Response and Agency Conclusion**

As discussed above, the Agency informs the Board that it has discussed with AER an alternative variance proposal where AER commits to complying with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from January 1, 2013 through December 31, 2019. Agency Resp. at 21. The Agency states that this alternative compliance proposal satisfies the Agency. *Id.* The Agency concludes that an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu, together with ceasing operations at the Meredosia and Hutsonville stations, "would result in a net environmental benefit through 2021 greater than initially proposed" in the petition. *Id.*

There is no regulatory requirement that AER's Meredosia and Hutsonville stations remain shut down so granting this variance would ensure that these two stations remain shut down during the term of the variance. Agency Resp. at 21. The Agency points out that using emission reductions from facility shutdowns to offset emission increases "is an acceptable part of the established regulatory process." *Id.* The Agency recognizes such reductions to offset potential emission increases under other regulatory programs such as New Source Review and Prevention of Significant Deterioration permitting programs. *Id.* Thus, the Agency concludes that "the emission reduction offsets that [AER] is seeking to rely on are creditable and allowable." *Id.*

The Agency also explains key points as to the background of the MPS. Agency Resp. at 21-22. The Agency notes that the MPS "was created and designed to achieve significant $SO_2$ and $NO_x$ reductions in exchange for mercury control flexibility in the Illinois Mercury Rule." *Id.* at 21. The MPS was negotiated in consideration of AER's "ability to install pollution control equipment in a timely manner and a desire to achieve the greatest amount of reductions within a reasonable amount of time." *Id.* at 22. The Agency specifically states that "the MPS was not designed to address the new 2010 1-hour $SO_2$ National Ambient Air Quality Standard, which was not proposed at the time the MPS was being negotiated." *Id.*

The Agency also notes that granting the variance under the alternate proposal agreed between the Agency and AER will have "no detrimental impact in the ability to rely on the new variance-adjusted MPS emission reductions in the Illinois SIPs, as needed." Agency Resp. at 22.

The Agency concludes that granting the variance imposing an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from January 1, 2013 through December 31, 2019 results in a net environmental benefit. Agency Resp. at 22. Further, the Agency "does not believe that any environmental harm would result therefrom." *Id.*

**OBJECTIONS**

On May 31, 2012, the Board received two objections to the petitions, as discussed below. Environment Illinois, ELPC, Natural Resources Defense Council, Respiratory Health Association of Metropolitan Chicago, and Sierra Club (the Citizens Groups) filed an objection

the AER's petition which the Board clerk docketed as PC#6. The Citizens Groups, except for Natural Resources Defense Council, filed an additional objection which the Board clerk docketed as PC#7. The Citizens Groups also filed a post-hearing comment on August 13, 2012 (PC#2409).

**The Citizens Groups' Objection (PC#6 and PC#2409)**

The Citizens Groups object to granting AER's variance petition. PC#6 at 1. The Citizens Groups make six points, as follows.

First, the Citizens Groups argue that the variance should be denied because AER should be required to comply with the MPS which AER itself negotiated. PC#6 at 2. AER "agreed to, opted into, and benefitted from the standards it now seeks to undermine." *Id.* The Citizens Groups characterize the MPS as allowing owners "to meet mercury limits less stringent than would otherwise be required as long as they meet certain emission standards and technology requirements for $SO_2$ and $NO_x$." *Id.* Under the MPS, owners opted into the MPS in exchange for "the right to delay compliance with numeric or input-based mercury limits until at least 2015." *Id.* The Citizens Groups contend that the MPS mercury control requirements are less stringent than the requirements of the Illinois mercury rule which required electric generating units to meet the same mercury standards as the MPS six years earlier than the MPS and without the compliance option of injecting activated carbon. *Id.* at 2-3, fn. 4. Thus, granting the variance would give AER the benefit of less stringent mercury standards for several years without meeting the prescribed $SO_2$ limits which were part of the "laboriously negotiated" deal. *Id.* at 3-4.

The Citizens Groups next argue that, "AER's agreement with the State and other parties to enter into and abide by the MPS is the functional equivalent of a contract." The Citizens Groups cite court cases regarding contract disputes and state that changing market conditions are foreseeable and should not excuse AER from fulfilling its commitment. PC#2409 at 23-24, citing to Northern Ill. Gas Co. v. Energy Coop., Inc., 122 Ill. App. 3d 940, 952-53 (3d Dist. 1984); YPI 180 N. LaSalle Owner, LLC, 403 Ill. App. 3d 1; Bank of America, N.A. v. Shelbourne Development Group, LLC, No. 09 C 4963, 2011 U.S. Dist. Lexis 21258 (N.D.Ill. Mar. 3, 2011).

Second, the Citizens Groups state that AER only suggested two options, the variance or the shuttering of multiple generating stations. In so doing, the Citizens Groups argue that AER failed to address other strategies or a combination of strategies for complying with the MPS: (1) curtailing power production at AER's plants with higher $SO_2$ emission rates, (2) using dry sorbent injection, (3) using ultra low-sulfur coal, (4) maximizing/optimizing existing scrubbers, (5) maximizing operations and capacity at units with scrubbers, (6) natural gas conversions, and (7) seeking financing from its parent company to complete installation of scrubbers at its Newton plant." PC#6 at 4, PC#2409 at 11. The Citizens Groups suggest that a combination of strategies would at least bring AER closer to the MPS requirements to further reduce emissions during the variance period. PC#2409 at 9-10. The Citizens Groups argue that AER must show that these other compliance options are not viable in order to demonstrate a hardship. PC#2409 at 9, citing Allaert Rendering, 91 Ill. App. 3d at 162 and Willowbrook Motel P'ship, 135 Ill. App. 3d at 349.

As to curtailing power production, the Citizens Groups assert that AER has not presented reasons why it could not vary degrees of curtailment at the unscrubbed units or combine curtailment with other strategies. PC#2409 at 10.

With respect to the use of dry sorbent injection, the Citizens Groups note that AER dismissed this option because variability in removal rates from 10%-90% reduced its effectiveness, injection of the dry sorbent would overburden ESPs and require baghouses on all units, and costs would be prohibitive. PC#2409 at 12-16. The Citizens Groups cite to AER's dry sorbent injection pilot testing at Joppa, noting that when operators controlled the injection rate to achieve 50% $SO_2$ removal, the actual removal rate ranged from 42% to 67%, not 10% to 90% as AER suggested. PC#2409 at 12-13, PC#2409 Exh. 2. Additionally, the Citizens Groups argue that the Joppa pilot test suggests that dry sorbent injection did not impact the operations of the ESP or necessitate a baghouse. PC#2409 at 14-15. As to costs, the Citizens Groups refer to the comments of Kimberly Gray, PhD, who noted,

> perhaps the biggest advantage of dry sorbent injection is lower cost compared to wet FGD with dry sorbent injection averaging 10-25% of the cost of wet FGD. PC#2409 at 16, PC#2409 Exh. 3.

The Citizens Groups contend that dry sorbent injection could be installed and operated at a rate that would be short of compliance with the MPS but that would not overburden the existing ESPs and still provide significant emission reductions during any variance period. PC#2409 at 10-16.

The Citizens Groups also suggest that the use of ultra low-sulfur coal and natural gas conversion, in combination with other strategies, could also achieve significant progress toward compliance with the MPS. PC#2409 at 16 -19. The Citizens Groups point out that AER is already using low-sulfur coal in Missouri, in combination with other strategies, to meet federal $SO_2$ requirements. As to repowering plants with natural gas, the Citizens Groups believe the viability of this option has increased over recent years with the fall in natural gas prices. PC#2409 at 17-18.

In terms of financing, the Citizens Groups question AER's argument that its parent company cannot provide funding for the Newton FGD project. PC#6 at 5. The Citizens Groups argue that AER has not met its burden to show that this funding is not possible, contending that Ameren Corporation "could in principle finance its subsidiary, but has chosen not to for business reasons." *Id.*, PC#2409 at 35. The Citizens Groups offer that the parent corporation has "promised to provide a guaranteed $100 million to AER upon the sale of three natural gas plants" which may be a possible funding mechanism. PC#6 at 5.

Third, the Citizens Groups argue that granting AER's variance request sets a precedent for other owners to seek variances which would undo important gains in controlling mercury, $SO_2$, and $NO_x$. PC#6 at 6, PC#2409 at 49-50. The Citizens Groups are concerned because AER's justifications for a variance apply to other owners, reasons such as "financial distress due to low power demand, higher natural gas supplies, and inability to recuperate costs via rate recovery, as well as supposed regulatory uncertainty." *Id.* The Citizens Groups predict that

other companies would seek similar variances if AER's request is granted. PC#6 at 6. In addition, the Citizens Groups contend that the Board should deny the variance so that one negotiating party in a large-scale multi-party negotiation "does not thwart opportunities to craft stronger, widely-supported regulations in the future." *Id.* The Citizens Groups claim that many of the negotiating parties at that table will have no reason to participate in negotiating future complex regulatory schemes if they can be disregarded in bad times. *Id.*

Fourth, the Citizens Groups contend that AER has not provided a definite compliance plan or shown that it will comply with a proposed compliance plan. PC#6 at 7, PC#2409 at 2. The Citizens Groups characterize AER's petition as "not definite" because it requires that power prices must improve before investments in $SO_2$ control equipment will be economically feasible, which AER itself acknowledges is uncertain. PC#6 at 8, PC#2409 at 2-3. The Citizens Groups point to statements in AER's supporting documents and testimony that prices may never increase, which may mean that AER will never be able to comply with the $SO_2$ requirements. *Id.*

The Citizens Groups point to Standard & Poor's ratings showing future power prices will quite possibly remain low, and Moody's ratings finding an improvement in AER's cash flow linked to a "recovery in power prices, which may not occur." PC#2409 at 5. Should the factors not change in the near future, the Citizens Groups suggest the State will be subjected to "a revolving door of variance requests." *Id.* at 6. The Citizens Groups assert that the Board should only grant a variance for a temporary reprieve from regulatory requirements, "rather than a mechanism for indefinitely propping up a failed business model." PC#6 at 9. Additionally, the Citizens Groups state that although AER referenced time frames for ongoing construction activities, AER has not provided a time schedule for the most important phases of the FGD construction. PC#2409 at 6. The Citizens Groups argue that such a vague time schedule does not meet the legal standard of a "detailed compliance plan" under the Board's petition content requirements for variances at 35 Ill. Adm. Code 104.204(f). *Id.*

Fifth, the Citizens Groups argue that AER's proposed variance will worsen air quality, not create any net air quality benefit, and that AER has not presented an honest appraisal of the health and environmental impacts. PC#6 at 9, PC#2409 at 36.

With AER's claim of a net benefit, the Citizens Groups object to AER using emission reductions from closing the Hutsonville and Meredosia plants to mitigate increased emissions from delaying compliance with the 2015 and 2017 $SO_2$ emission standards. PC#6 at 9. The Citizens Groups argue that it is improper to consider the Hutsonville and Meredosia closures, stating that these closures and resulting emission reductions would occur regardless of whether the variance is granted because the plants are uneconomical to operate and the shutdowns are necessary for lowering the fleet-wide rate to comply with the MPS and a reinstated CSAPR. *Id.*, PC#2409 at 41-46.

The Citizens Groups also question AER's inclusion of 2010 and 2011 emission reductions because they pre-date the variance request. PC#6 at 9, PC#2409 at 41-46. The Citizens Groups contend that if the air quality impact is properly evaluated, "it is clear that the variance will in fact significantly increase harmful $SO_2$ pollution and thereby worsen air quality." *Id.* The Citizens Groups present what they term as a "corrected" version of AER's Table 1,

eliminating the emissions reductions AER credited for the shutdowns of Meredosia and Hutsonville and the actual emissions during 2010 and 2011 as well as the heat input associated with the two shutdown plants. PC#2409 at 38-40. The Citizens Groups claim their revised calculations suggest the variance would allow AER to emit 32,760 more tons of $SO_2$ during the period of 2012 to 2020, and not result in a net reduction as AER claims. *Id.* at 38-41.

As to the public health impacts, the Citizens Groups refer to letters signed by health professionals in Illinois who cite to the harmful effects of $SO_2$ emissions and voice concern at the efforts to weaken the MPS. The health professionals explain that $SO_2$ is a precursor to fine particle pollution in the atmosphere. Particulate matter with a diameter less than 2.5 microns, or $PM_{2.5}$, can be transported over long distances and impact populations miles away from the source. The health professionals note the link between exposure to $PM_{2.5}$ and premature mortality and cardiovascular effects, stating,

> failure to lower [AER's $SO_2$ emissions] on the agreed upon schedule would be expected to keep rates of asthma attacks and other health problems higher than they would be at the agreed upon, lower levels. PC#2409 at 47-48, PC#2409 Exh. 5, PC#1174, PC#1919.

From a 2010 National Research Council study[9] (PC#1918) referenced by the health professionals, the Citizens Groups estimate a cost for damages per ton of $SO_2$, ranging from $4,850 (at Newton) to $6,580 (at E.D. Edwards). PC#2409 at 48. The Citizens Groups characterized the damages as "externalities associated with local and global air pollution for individual coal-fired and gas-fired power plants in the United States." *Id.* Based on the Citizens Groups estimates that the variance would result in 32,760 more tons of $SO_2$ than compliance with the MPS, the Citizens Groups calculate that the variance would result in damages ranging from $159 million to $216 million. *Id.*

Sixth, the Citizens Groups argue that AER's hardship is self-imposed, and not arbitrary or unreasonable as required by the Act. PC#2409 at 7, referring to 415 ILCS 5/35, 37. The Citizens Groups contend that the hardship AER now faces is from AER's own business decisions to opt into the MPS and operate their Illinois generating plants through a deregulated entity. PC#2409 at 7. The Citizens groups argue that changes in power prices and market conditions were foreseeable when AER opted into the MPS. Although AER stated at hearing that the MPS was "premised on the expectation that the power market would continue to support costly installation of pollution control equipment over the schedule of the MPS", the Citizens Groups argue that AER was aware that opting into the MPS "did not make compliance with the MPS contingent on a robust power market." *Id.* at 22-23. The Citizens Groups cite to Board cases where variances were denied where the petitioner's hardship was self-imposed or foreseeable. *Id.* at 19-20, citing Marathon Oil Co v. IEPA, PCB 94-27, slip op. at 10-11 (May 16, 1996); Ekco Glaco v IEPA, PCB 87-41 (Dec. 17, 1987); Allaert Rendering, Inc. v. IPCB, 91 Ill. App. 3d 160, 162 (3d Dist. 1980); Willowbrook Motel P'ship v. IPCB, 135. App. 343, 345 (1st Dist. 1985); IEPA v. Lindgren Foundry Co., PCB 70-1, slip op. at 8-13 (Sept. 25, 1970).

[9] National Research Council, "Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use" (2010).

Where AER argues that hardship is also based on "regulatory uncertainty", the Citizens Groups cite to a Board decision to grant a variance in part based on regulatory uncertainty, but only under "unique circumstances" where "unprecedented uncertainty exists." PC#2409 at 24, citing ExxonMobil Oil Corp v. IEPA, PCB 11-86, 12-46, slip op. at 30 (Dec. 1, 2011). The Citizens Groups argue that the regulatory uncertainty in AER's case is not comparable to the unique circumstances or unprecedented uncertainty in the ExxonMobil case since "it is and has been clear to AER that CSAPR is coming soon . . . ." PC#2409 at 24-25.

Additionally, the Citizens Groups argue that any hardship AER faces is outweighed by the benefits AER gained by opting into the MPS and choosing to enter the deregulated market. PC#2409 at 26-29. Although AER testified in the R06-25 hearing that the MPS provision would be more costly for AER, the Citizens Groups recall that AER stated that the MPS provides important financial and operational benefits by allowing companies to spread capital investment costs and construction management over a longer period of time. *Id.* at 27, referring to Proposed New Ill. Admin. Code 225 Control of Emissions from Large Combustion Sources, R06-25 (July 28, 2006). Because of the benefits of opting into the MPS, the Citizens Groups point out that the Agency specified in the R06-25 proceeding that the MPS is a "once-in, always-in" provision, otherwise companies could opt-out after receiving the benefits of mercury control flexibility. PC#2409 at 28-29. As to the benefits of deregulation, the Citizens Groups refer the testimony of ELPC's Mr. Kelter who said,

> [b]y transferring those plants to unregulated affiliates [AER] was able to reap benefits from the plants that it would have never earned under traditional regulation, and customers were subject to market prices when the freeze ended. For many years, [AER]'s decision paid off for the company. PC#2409 at 33, citing Tr. at 71.

Although the Citizens Groups object to granting the variance, the Citizens Groups suggest that if the Board were to grant the variance, that the Board only do so subject to strict conditions and a shorter variance period. PC#2409 at 2, 51-52. The Citizens Groups recommend that before the Board grants any variance to AER, AER should better demonstrate its assessment of options, including a combination of control strategies that would result in emission reductions below the 0.35 lb/mmBtu proposed. The Citizens Groups note that AER's testimony regarding efforts to meet future CSAPR requirements, such as the use of more low-sulfur coal or additional sorbent injection, show that AER can do better. *Id.* at 9, 11, referring to Tr. at 41-42. The Citizens Groups believe AER can "[do] it now, pursuant to a variance or the MPS, instead of later under CSAPR." PC#2409 at 11, 51-52. The Citizens Groups also suggest that any grant of a variance require AER to provide a detailed description of the work it will perform and a binding schedule for completion. *Id.* at 51. Finally, the Citizens Group suggest the variance period be no longer than two years to allow all the parties an opportunity to reassess AER's prospects for future compliance. *Id.* at 52.

## The Citizens Groups' (Except for NRDC) Objection (PC#7)

The Citizens Groups, except for Natural Resources Defense Council, filed an additional objection on the same day as the objection detailed above. This additional objection restates, nearly verbatim, the first argument outlined above. Accordingly, it is not again summarized here.

## ILLINOIS ATTORNEY GENERAL'S POSITION (PC#249 AND PCB#2410)

The Illinois Attorney General, on behalf of the People of the State of Illinois (People), initially stated

> the Board should deny the petition for variance filed by [AER] or, in the alternative, grant it only with conditions that would minimize the amount of excess pollution allowed in the years 2015 through 2019." PC#249 at 1.

The People argue that AER has failed to meet its burden of showing that the hardship of compliance outweighs harm to the environmental and public health caused by the variance. *Id.*

Using AER's $SO_2$ emission calculations in Table 1 of AER's petition, the People point out that if the variance is granted and AER complies with an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu, AER will increase $SO_2$ emissions between 2015 and 2019 as compared to the MPS. PC#249 at 3. The People accuse AER of "gloss[ing] over this pollution increase by framing its alternative compliance plan in terms of the cumulative, or overall, number of tons that will be emitted from 2010-2021 as compared to what is anticipated under the MPS." *Id.* at 4.

The People argue that "the MPS was not intended to be a 12-year averaging period of pollution reduction." PC#249 at 4. The MPS "was designed to ratchet down emissions of $SO_2$ and other pollutants over a period of time by triggering incremental clean ups of AER's coal fleet." *Id.* The People argue that lower $SO_2$ emissions from 2010 to 2014 result from AER "having its coal plants dispatched less and less and also from previous business decisions made by [AER] to mothball uneconomic units (Hutsonville and Meredosia)." *Id.*

The People assert that "$SO_2$ is not a pollutant that should be subjected to a long-term averaging analysis because its primary public health impacts occur relatively quickly after being released." PC#249 at 5. Environmental and health impacts from $SO_2$ emissions include short-term respiratory exposure, formation of particulate matter, and acid rain deposition. *Id.* The People argue that early reductions in $SO_2$ emissions are of little value because "a ton of $SO_2$ avoided in 2010 does not help an asthmatic . . . exposed to emissions in 2018 or the lake that receives acid rain pollution in that later year." *Id.*

The People argue that any alleged hardship in complying with the MPS should be analyzed by considering "the alternative measures [AER] would have to take assuming its preferred compliance plan (scrubbers at Newton) is unavailable." PC#249 at 6. The People

believe that AER's inability to obtain financing for the Newton FGD project due to difficult economic conditions is not a hardship. *Id.*

The People state that AER's petition presents only one compliance alternative to the Newton FGD project which is closing at least two AER plants. PC#249 at 6.

The People originally suggested the following compliance options: (1) optimizing scrubbers to further reduce emissions; (2) other less expensive control technologies; (3) reduce production on certain units; (4) other operational management measures. PC#249 at 7.

Following AER's hearing testimony, the People continue to believe that the information provided by AER

> is still not sufficient to determine whether various pollution control strategies, either alone or in combination with one another, are available to reach compliance or to minimize the gap of non-compliance. PC#2410 at 2.

Should the Board grant the variance, the People believe that the following conditions should be added:

- Setting of a revised $SO_2$ emission rate based on additional measures AER might take to limit excess pollution,
- The Hutsonville and Meredosia stations remain non-operational,
- Require the use of dry sorbent injection or other dry scrubbing applications as a partial if not full compliance measure,
- Require the partial curtailment or derating of certain units to assist with compliance,
- Require AER to operate the Duck Creek and Coffeen scrubbers at 98-99% $SO_2$ removal efficiencies,
- If AER continues to procure low-sulfur coal as an operational step to meet emission rates, require AER to procure the lowest-sulfur coal available and to submit regular verified certifications, and
- Any other conditions as determined by the Board that would minimize deviation from the MPS and provide a more proper balance between the hardship to AER and the harm to public health and the environment that the variance would allow.

PC#2410 at 8. The People make these condition requests in light of comments presented by AER. *Id.* at 5, 6, 7.

The People emphasize that AER's witness testified only that "'probably' anywhere from one to three plants could 'very likely' need to shut down." PC#2410 at 2. The People also request that AER be required to submit the details of its evaluation of dry sorbent injection and any other dry scrubbing technologies for Board review. *Id.* at 5. The People do not believe that AER has demonstrated that it has thoroughly analyzed the viability of using dry sorbent injection and any other dry scrubbing technologies in light of these applications being "cheaper, faster ways to reduce $SO_2$ emissions." *Id.*

The People believe AER should provide evaluation and analysis on unit curtailments or deratings because there could be cost effective pollution reductions through partial curtailment "that, when combined with other compliance strategies, would bring [AER] closer to complying with the MPS." PC#2410 at 5.

The People further request that the variance be limited to two years with the ability for AER to petition for an extension. PC#2410 at 8. The People believe that a two-year variance

> would provide [AER] with the relief it needs now but provide the added benefit of allowing the Board and the [Agency] an opportunity for reassessment if, two years from now, AER still believes it needs more time under a variance. *Id.* at 8-9.

The People further state a number of factors, including a rise in natural gas prices, compliance with CSAPR and MATS, economic improvement, weather patterns, price of coal and renewable energy policy could lead to an increase in power prices and an improvement in AER's financial position. PC#2410 at 9-10. However, it is not possible to know for sure how all of these dynamics will play out. *Id.* at 10. The People contend a two-year variance

> would allow [AER] to maintain the decelerated status of the Newton scrubber project and to hold off on making any decisions about placing plants in cold standby. But it would also preserve the chance for the Board to keep the MPS on track to the fullest extent possible and to keep excess pollution to a minimum. PC#2410 at 9.

## HEARING

The Board held the public hearing on August 1, 2012 in Springfield. AER and the Agency appeared as participants in the hearing. AER presented sworn testimony from two witnesses: Michael Menne and Gary Rygh. The Agency did not present any testimony. As a public comment, ELPC presented sworn testimony from Robert Kelter. The Board received two documents as hearing exhibits: Testimony of Michael L. Menne (Exhibit 1); and Comments of Robert Kelter, and Ameren Corporation's Performance Under the Illinois Electric Service Customer Choice and Rate Relief Law of 1997 (Exhibit 2). Ninety-five individuals provided public comments.

## Testimony

### Michael Menne, Ameren Services Company

Michael Menne is the Vice President of Environmental Services for Ameren Services Company, which provides business and administrative service to Ameren Corporation and its subsidiaries, including AER. Mr. Menne worked with the Agency on the development of the MPS. Tr. at 12-13, Hearing Exh. 1 at 1.

Mr. Menne began by describing AER's coal-fired power plants in Illinois: Edwards, Duck Creek, Meredosia, Coffeen, Newton, Hutsonville, and Joppa. Mr. Menne also spoke of the gas-fired turbines in AER's fleet. Mr. Menne went on to say, "These plants are an integral part of the communities in which they're located . . . ." Tr. at 14-15.

Mr. Menne then described AER's progress in reducing emissions across its fleet, showing charts depicting the decline in $SO_2$ emissions of 79% since 1990 and 23% over the last four years. Mr. Menne emphasized that AER made these reductions despite a significant increase in coal utilization within AER's fleet over the years. Tr. at 15-16, Hearing Exh. 1 at 1-2. The charts show historical $SO_2$ emissions for the MPS units declining from approximately 330,000 short tons in 1990 to 70,000 in 2011, while coal consumption increased from approximately 10 million tons in 1990 to 17 million tons in 2011. Hearing Exh. 1 at 11. Mr. Menne explained,

> AER has achieved these reductions through a number of investments in pollution control equipment and continuing efforts to improve and maximize efficiencies and operating performances. Hearing Exh. 1 at 2.

Mr. Menne recounted how AER has spent over $1 billion on pollution control equipment for its fleet. In order to meet the MPS, Mr. Menne stated that AER has already spent over $813 million to install scrubbers on three of its generating units and $237 million to start construction on the fourth (Newton). AER has spent over $177 million to install SCR equipment to reduce $NO_x$ emission at three of its plants, and incurs costs over $7 million each year in operating costs. For mercury control, AER has also spent over $20 million installing ACI technology on twelve units at four plants, with $17 million in operating costs to date. Tr. at 16-17, Hearing Exh. 1 at 3.

Mr. Menne testified that AER has been voluntarily operating its scrubbers at $SO_2$ removal efficiencies higher than necessary to meet the current MPS and federal requirements. Additionally, Mr. Menne explained that AER is continuing to test and evaluate methods to enhance mercury removal. To date, Mr. Menne believes that most of AER's generating units are very close to meeting MATS regulations and Newton Unit 2 already is already meeting the MPS mercury control requirements ahead of schedule. Tr. at 17-18, Hearing Exh. 1 at 3.

Mr. Menne emphasized that in proposing the MPS in R06-25,

> [AER] stepped forward on its own with no pressure from the environmental groups – the MPS was not a settlement of an enforcement case or adversary proceeding. Hearing Exh. 1 at 4, Tr. at 19.

Mr. Menne explained that AER premised the MPS proposal on an expectation that the power market would support the costs to comply with the schedule proposed. Tr. at 19, Hearing Exh. 1 at 4. However, for the scrubber at Newton, Mr. Menne stated,

> [e]ven though AER knew the [economic] forecast was looking grim, AER committed the capital dollars to begin the very costly installation for the scrubbers in order to be prepared to meet the very stringent 2015 MPS $SO_2$ rate. Tr. at 18-19, Hearing Exh. at 3-4.

As construction of the Newton scrubber proceeded, Mr. Menne stated, "the economic climate became more troublesome from a financing perspective." Tr. at 20, Hearing Exh. 1 at 4-5. Mr. Menne also explained that AER made a commitment to continue with the project, but to decelerate construction activities. *Id.*

Mr. Menne explained that, without the financial resources to complete construction of the Newton scrubber on schedule, AER evaluated a number of compliance options. These included curtailment of operations and installation of less expensive pollution control equipment at other plants. Tr. at 20-21. Mr. Menne discussed the option of curtailing operations, acknowledging that, while it would reduce emissions, AER would still incur the fixed costs associated with operating the plant. *Id.* at 22. With less power produced and less power sold, Mr. Menne said that curtailment would not allow AER to recover financially so that funding could be achieved to complete the Newton scrubber. *Id.* at 22-23. Mr. Menne testified that curtailment of operations would put AER in "a worse position financially than it would if it had to close down plants." *Id.* at 22; *see also* Hearing Exh. 1 at 5.

Mr. Menne stated that AER also considered less expensive technologies for reducing $SO_2$ emissions, including scrubbers and sorbent injection. Tr. at 23. For sorbent injection, Mr. Menne stated that AER's evaluation found efficiencies ranging from 10% to 90%. Hearing Exh. 1 at 6. Mr. Menne explained that such variability would reduce the effectiveness of sorbent injection as a compliance alternative. *Id.* Additionally, AER found that sorbent injection could impair performance of the ESPs, unless AER either built bigger ESPs or installed additional controls such as a baghouse to control particulate matter. Tr. at 24, Hearing Exh. 1 at 6. When considered from a comprehensive approach, Mr. Menne stated that the total cost of sorbent injection would exceed that for completion of the Newton scrubber already underway. *Id.*

In preparing the variance request, Mr. Menne testified that AER considered steps to address any environmental impact that might result. Tr. at 24. AER proposed to comply with a "mitigation emission rate" during the variance period of 0.38 lb/mmBtu from 2013 through 2019, which would reduce $SO_2$ emissions earlier in the variance period than required by the MPS. *Id.*, Hearing Exh. 1 at 7. Since filing the petition and meeting with the Agency, AER has agreed to an even lower $SO_2$ mitigation emission rate of 0.35 lb/mmBtu beginning in 2013 through 2019. Tr. at 24-26, Hearing Exh. 1 at 6-7, 9. Mr. Menne explained that, to achieve the lower rate, AER will need to fully maximize operation of the FGD systems at the Duck Creek and Coffeen Energy Centers to removal efficiencies between 98%-99%. Tr. at 25, Hearing Exh. 1 at 7. Mr. Menne added that AER does not normally operate scrubbers at such high efficiency

removal levels because it degrades the plant and pollution control systems over time. Tr. at 25-26. Mr. Menne stated that AER will also need to turn to other operational strategies to comply with the mitigation emission rate, such as low-sulfur coal procurement and generation utilization. Tr. at 26, Hearing Exh. 1 at 7.

As to AER's compliance plan during the variance period, Mr. Menne stated that AER is committed to spending approximately $16 million each year during the variance for the continuing work on the Newton scrubber, with more expenditures in the last couple of years of the variance. Mr. Menne explained that during the variance period, AER would be continuing to install ductwork, complete engineering, and install absorber units. Mr. Menne stated that AER would also provide annual updates on costs and activities. Tr. at 32-33. Mr. Menne stated that at this time, AER would not be able to predict a last possible date at which point AER would know if completion of the Newton FGD would not be accomplished by the January 15, 2020 compliance date. Tr. at 37-38.

Additionally, Mr. Menne stated that the only way for AER to meet the 0.35 lb/mmBtu mitigation emission rate is to not operate the Meredosia and Hutsonville Energy Centers. Mr. Menne relayed that the Agency specifically asked AER to commit to not operating the two facilities during the variance period. Mr. Menne stressed, "AER's commitment to keep these plans shut down during the pendency of the variance is a real and meaningful commitment with consequences." Tr. at 26-27, Hearing Exh. 1 at 7-8.

Mr. Menne stated that both energy centers are fully permitted and could be operated. Tr. at 26. Had the CSAPR not issued as final with a 2012 initial year of compliance, Mr. Menne stated that these two plants would be operating today. *Id.* at 27. Mr. Menne stated that it is because of the requirements to meet air pollution reductions, including the MPS, that these plants were shuttered. Tr. at 27-28, 39-40, Hearing Exh. at 7-8. Although CSAPR was stayed by the court in the eleventh hour, Mr. Menne stated, "[b]y that time, it was a little late. Everybody was gone and things were closed down." Tr. at 39-40.

Mr. Menne noted that the Agency's recommendation explained that offsets for plant shutdowns and other commitments are fully creditable and allowed in the established regulatory practice for the New Source Review (NSR) and Prevention of Significant Deterioration (PSD) programs. Tr. at 27. Furthermore, Mr. Menne stated that emission credits for plant shutdowns are a primary part of the federal goal to reduce all forms of emissions nationally from coal-fired power plants. Tr. at 28, Hearing Exh. 1 at 8. Mr. Menne stated that if CSAPR were reinstated, AER anticipates the need to take additional measures for $SO_2$ reductions, such as use of more low-sulfur, or lower-sulfur, coal, additional sorbent injection, or purchase of $SO_2$ allowances, but Mr. Menne cautioned, "we don't know what CSAPR is going to end up being." Tr. at 41-43.

In terms of the environmental impact, Mr. Menne explained,

> [t]he net environmental benefit comes from the fact that total $SO_2$ emissions are lower with this variance in place than originally expected or anticipated over the entire MPS compliance period. Tr. at 28-29, Hearing Exh. at 9.

Finally, if the variance is not granted, Mr. Menne explained that AER will likely have to shut down one or two or all of the Joppa, Edwards, and Newton plants by 2015 when the lower MPS $SO_2$ emission rate takes effect. Tr. at 21.

**Gary Rygh, Barclays Capital**

Gary Rygh is managing director in the Global Power and Utility group of Barclays Capital, covering the power and energy investment banking business. Tr. at 10-11, 44-45.

Mr. Rygh described how the financial health of GENCO has eroded due to a number of factors, including Illinois' air emission regulations, the drop in natural gas prices, and AER's status as a merchant power generator. Tr. at 45-46. GENCO is AER's only rated subsidiary. Mr. Rygh explained that, as a merchant generator, AER is exposed to market prices, swings in load demand, and volatility of commodity pricing. *Id.* at 46. Mr. Rygh stated that AER is now facing shrinking margins in the face of increasing state requirements to invest in capital for pollution control equipment; however, AER no longer has access to capital to complete the Newton FGD project on time. Tr. at 46-47. Since credit rating agencies view GENCO's credit quality as poor, Ameren Corporation has little incentive to invest additional capital into AER. *Id.* at 47. If Ameren Corporation were to invest in the unregulated merchant subsidiaries, Mr. Rygh stated that Ameren Corporation's own credit and access to capital would be adversely impacted. *Id.*

Mr. Rygh responded to a suggestion by the Citizens Groups who cited to an earnings call where an AER representative referenced a "Put Option Agreement" as a means to provide financing. Tr. at 47-48. Mr. Rygh explained, "[t]he Put Option Agreement is essentially an agreement between two unregulated subsidiaries for the sale of assets." *Id.* at 48. Mr. Rygh stated, "[w]hile the Put Option may temporarily stabilize the subsidiary's liquidity profile, it does not provide capital financing for AEG or for the Newton scrubber project." *Id.*

As to the statement made by the Citizens Groups that granting the variance would be "propping up a failed business model," Mr. Rygh disagreed, stating, "[c]oal-fired electricity generation remains an integral and necessary part of the nation's energy portfolio." Tr. at 48. Mr. Rygh believes that, once CSAPR or some similar federal legislation becomes law, AER's peers in other states that are not subject to the MPS will be placed on more equal footing. *Id.* at 49. Mr. Rygh predicted that when that happens, market prices for electricity will likely rise and eventually AER will have access to capital to complete the Newton FGD project. *Id.* AER has already spent over $237 to start construction, and from an investor's perspective, GENCO wants to complete the project. *Id.*

**Robert Kelter, ELPC**

Robert Kelter is a Senior Attorney for ELPC and was previously Director of Litigation at the Citizens Utility Board (CUB). Tr. at 67. While working at CUB, Mr. Kelter testified that he was involved in negotiating and drafting the Electric Service Customer Choice and Rate Relief Law of 1997 (1997 law). *Id.* Mr. Kelter testified regarding the background on the 1997 law and his perspective on AER's variance petition. *Id.* at 67-68.

Mr. Kelter explained that before the 1997 law was passed, the previous regulatory framework meant that utilities recovered the costs of building power plants, and investors earned a return on their investment. Tr. at 69. Customers paid for upgrades and repairs and received all of the benefits, such as the proceeds from the sale of excess power. *Id.* Utility shareholders would not receive these benefits. *Id.* Mr. Kelter stated that the 1997 law was intended to allow utilities to earn unlimited returns in exchange for removing risks from ratepayers. *Id.*

Mr. Kelter continued that the 1997 law gave customers rate relief, and in turn, gave the utilities flexibility to sell their power plants to independent third parties or spin them off as unregulated affiliates. Tr. at 68. Mr. Kelter stated that the AER companies transferred the plants to their unregulated affiliates. *Id.* at 70. Mr. Kelter testified,

> [b]y transferring those plants to unregulated affiliates, [AER] was able to reap benefits from the plants that it would never have earned under the traditional regulation and customers were subject to market prices when the freeze ended. Tr. at 71.

Mr. Kelter stated that as the freeze came to an end in 2006, CUB performed a study showing that AER's stock outperformed the S&P 500 and other utility stocks. Tr. at 71, Hearing Exh. 2.

Mr. Kelter agrees with AER's arguments that other utilities in the region are not burdened by the Illinois air pollution regulations and that ratepayers in other states do pay the costs for compliance. Tr. at 71. But, Mr. Kelter argues that these risks were foreseeable when AER transferred the plants. *Id.* Mr. Kelter adds that while merchant generators are dependent on market prices as AER states, AER's petition does not show its profits and losses over the last decade. *Id.* at 72. Mr. Kelter concluded,

> [AER] benefitted from the market when environmental regulation was more relaxed. It now requests relief from environmental regulations that were within the realm of reasonable expectation. Tr. at 73.

## Public Comments at Hearing

In addition to hearing testimony, the Board received ninety-five oral public comments during the hearing.

### Hearing Comments in Support of Granting the Variance

The Board received sixty-three comments in support of granting the variance petition during the hearing. *See* Attachment A – Hearing Commenters in Support of Ameren Energy Resources Requested Variance.

Included among these commenters were Senator Gary Forby, 59th District (Tr. at 56); Representative Brandon Phelps, 118th District (*Id.* at 59); and Representative David Reis, 108th District (*Id.* at 63). The Board also received comments from the Mayors of Newton (*Id.* at 79),

Joppa (*Id.* at 102), and Metropolis (*Id.* at 103). The Board received other public comments ranging from representatives of the Illinois AFL-CIO (*Id.* at 76) and the Jasper County Board (*Id.* at 81) to current employees of AER (*See, e.g., id.* at 131) and residents of the communities surrounding the AER plants (*See, e.g., id.* at 226). The Board also received comments from educators including the Jasper County School Board (*Id.* at 106), Shawnee Community College (*Id.* at 111) and Joppa-Maple Grove School District Unit 38 (*Id.* at 113); as well as comments from business groups including the Economic Development Council for central Illinois (*Id.* at 189) and West Central Building Trades (*Id.* at 122).

In general, the commenters acknowledged the environmental impact currently facing the Board. *See, e.g.* Tr. at 61, 78, 103. However, commenters also focused on the financial impact currently faced by AER (*see, e.g., id.* at 60), and the impact to AER's employees and surrounding areas that would result from the shutdown of plants if the variance is not granted. *See, e.g., id.* at 58 (asking the Board to help "Joppa and the people in southern Illinois to keep their jobs"), 62 (noting "the devastating impact economically that [denying AER's request] would have on [Massac County]"), 64 (emphasizing "the serious economic impact of shutting down the largest private employer in Jasper County"). Commenters also noted how the "AER family of companies . . . pay taxes critical supporting the schools, emergency response systems and city governments in dozens of communities across the state." *Id.* at 78, *see also id.* at 102. Jasper County Board Member Bill Weber noted that the Newton facility "represents a little over 51 percent of the total tax revenue for the county" and foresaw "bankruptcy for our county" if the Newton plant were to shut down. *Id.* at 82.

AER employees emphasized their concern for AER's environmental impact, noting that this was a focus for them in their jobs. *See, e.g.*, Tr. at 136, 165, 175, 198, 257. Employees also noted the pollution controls that AER has already installed to reach environmental compliance. *Id.* at 212, 233. Bill Miller, an employee at the E.D. Edwards station, noted the "traumatic experience" of going through the closing of the Meredosia station and stated that "it's not something that I look forward to going through again." *Id.* at 142. Mike Woo, also employed at the Edwards Station, emphasized the

> progress I have seen in 40 years and the commitment of three companies to be a good steward of the environment and produce electricity needed for economic growth in Peoria County and the surrounding tri-county area. Tr. at 154-155.

AER employee Dan Barnett also agreed with AER's position that granting the variance "will lead to a greater overall reduction in $SO_2$ over the life of the agreement." Tr. at 171, *see also id.* at 206-207. Mike Killebrew, employed at the Edwards station, stated that AER "is the most honest company I've ever worked for" and that he does not feel AER is misleading its employees regarding AER's variance request. *Id.* at 174. Commenters also echoed AER's concerns regarding the current economic state of the country and Ameren's attempts to recover from the recession (*Id*. at 178), as well as the inability to forecast the current energy market. *Id.* at 193. Lastly, AER employees raised concerns over losing the source of their income if any of the AER stations are to shut down. *Id.* at 202.

**Hearing Comments Opposing Granting the Variance**

At hearing, the Board received thirty-two public comments objecting to granting the variance petition. *See* Attachment B – Hearing Commenters Opposing Ameren Energy Resources Requested Variance.

A number of environmental groups presented comments at the hearing, including the Peoria Families Against Toxic Waste (Tr. at 126), Sierra Club (*Id.* at 132), ELPC (*Id.* at 115, 137, 142, 150), Green Peace in Illinois (*Id.* at 162), Prairie Rivers Network (*Id.* at 186), and the Heart of Illinois Sierra Club (253). The Board received a comment on behalf of Faith in Place, a partnership of 900 religious congregations in Illinois (*Id.* at 185). The Board also heard statements from health professionals and representatives of health groups, including RHA (*Id*. at 97), and Dr. Samuel Dorevitch of the University of Illinois in Chicago School of Public Health (*Id.* at 150).

**James Gignac, Illinois Attorney General's Office.** James Gignac, an Assistant Attorney General, appeared on behalf of the People. Tr. at 84. Mr. Gignac urged the Board to

> ensure that [AER] has taken all the steps that it should to minimize the deviation from the [MPS] before [the Board] grants any sort of variance. *Id.* at 84-85.

Mr. Gignac noted the "heavy burden" on AER to demonstrate that the hardship AER would endure by complying with the MPS outweighs the harm to the environment and public health. *Id.* at 86. Mr. Gignac stated the People's initial concern as "a lack of explanation or documentation . . . regarding alternative compliance options." *Id.* at 87. Mr. Gignac urged the Board to require a "complete analysis from [AER] on the costs and feasibility" of compliance alternatives. *Id.* at 88. Mr. Gignac requested that the Board grant a two year variance because granting the full variance now

> would lose that opportunity to see an updated justification for the variance, and we would lose the opportunity to revisit the issue and keep the MPS on track to the greatest extent possible. Tr. at 92.

Mr. Gignac believes that a two year variance would allow the company to change its compliance strategy and approach based on any changes in cash flow conditions. *Id.* at 91.

**The Citizens Groups Objections.** The Citizens Groups were represented at hearing by members of ELPC (Tr. at 115, 137, 142, 149), Sierra Club (*Id.* at 132, 233, 253), and RHA (*Id.* at 97).

Brian Urbaszewski, the director of environmental health programs at RHA, stated his concerns regarding lung disease such as asthma and chronic obstructive pulmonary disease, (*Id.* at 98), and the effects that air pollution from coal power plants have on these and other diseases. *Id.* at 99. Mr. Urbaszewski acknowledges that the 2006 Illinois rule "was stricter than federal requirements in place," but notes that since 2006, national air quality standards have required deeper reductions, such as in $SO_2$, and will continue to be tightened. *Id.* at 100.

Faith Bugel, appearing on behalf of ELPC, emphasized that granting the variance does not guarantee that the Joppa and E.D. Edwards plants, "old plants that do not have modern pollution controls," will not be shut down. Tr. at 116-117. Ms. Bugel notes the layoffs that have already occurred at the Joppa station as "telling" in this regard. *Id.* at 117. Ms. Bugel also believes that denial of the variance request does not guarantee that these plants would be shut down, noting AER's compliance alternatives such as conversion to natural gas, use of ultra low-sulfur coal, optimizing capacity at certain plants, and the use of dry sorbent injection. *Id.* at 118-121. Jared Policicchio, also appearing on behalf of ELPC, emphasized statements made relating to the 2006 MPS, by then Agency Director Doug Scott testifying in front of the U.S. Congress in 2009, as well as statements made during the 2006 rulemaking before the Board by AER experts testifying on AER's behalf. *Id*. at 137-141. Jennifer Cassel read into the record a letter signed by eighty-five health professionals opposing AER's variance request. *Id.* at 142-146, *see also* PC#2648. Lastly, Andrew Armstrong read into the record a comment on behalf of Dr. Dorevitch, also opposing the variance request. *Id.* at 150-153, *see also* PC#1919.

Terry Grace, representing Sierra Club, states his problem as not being the prospect of cleaner energy, but rather with "management decisions that jeopardize everyone's health, long-term prosperity, and possibly the welfare of [AER]'s workers." Tr. at 133. Mr. Grace further questions AER's long-term planning responsibility and states that AER "should not be rewarded for irresponsible decisions by their management." *Id.* at 133-134. Christine Nannicelli, also with Sierra Club, noted that AER's "agreement to reduce air pollution is vital in protecting public health and the environment throughout Illinois and the Midwest." *Id.* at 234.

Joyce Blumenshine, chair of the Heart of Illinois Sierra Club, stated that she is concerned about possible nonattainment in Peoria from additional pollution from the E.D. Edwards and Duck Creek stations. Tr. at 254. Ms. Blumenshine contends that the greater Peoria economy "would suffer incredibly due to added sulfur and pollution" if the area was forced out of attainment, and urged the Board to look at the "greater picture for what other communities have at risk." *Id.* Ms. Blumenshine believes that AER's economic statements to be "inadequate and self-serving" and raised a concern over AER's lack of attention given to the health impacts of the variance request. *Id.* at 254-255. Ms. Blumenshine concluded by noting the health concerns relating to short-term exposure to $SO_2$ and requested that the Board carefully evaluate this position. *Id.* at 255.

**Other Organizations and Individuals.** The Board received comments at hearing opposing granting AER's variance request from a number of other organizations and individuals.

These comments emphasized AER's 2006 MPS agreement and urged the Board to not allow AER to alleviate itself of these requirements. *See, e.g.*, Tr. at 156, 169, 171, 191. Edward Warden noted that granting the variance "is not fair to . . . other companies who also agreed to this time allotted" or "to the people who have to breathe the air that will continue to be as dirty as it has been." *Id.* at 156-157. Many commenters were also aware of the financial and economic implications that AER, and specifically AER's employees, were facing. *Id.* at 129, 177, 196.

However, commenters also focused on the health effects of increased levels of $SO_2$, contending that granting the variance would result in increased negative health effects throughout Illinois. *See, e.g., id.* at 183, 199, 206. Judy Weimer, a bilateral lung transplant recipient, noted that "we need to keep the air clean, if not for my generation, for our children and grandchildren." *Id.* at 93. Norman Eckstein recalled a friend who lost both parents to lung cancer, and while no specific reason was determined, Mr. Eckstein states that the belief is "that it's mostly environmental." *Id.* at 94. Brian Sauder, appearing on behalf of Faith in Place, asked the Board to deny the variance "for the future health of our generations here in Illinois." *Id.* at 186. Allison Fisher, speaking on behalf of Mary Ellen DeClue, raised a concern that AER "does not accept the harm to health and to the environment" caused by coal emissions. *Id.* at 221.

Commenters also raised concerns about the precedent that would be set regarding other companies subject to similar standards if the Board grants AER's variance request. *See, e.g.*, Tr. at 166. Melissa Marks noted that AER was "misleading" its employees "for an industry that's soon to be obsolete." *Id.* at 173. Marissa Lieberman-Klein stated that it "is not the job of this Board to protect the company's bottom line." *Id.* at 196.

Tracy Cox, appearing on behalf of Peoria Families against Toxic Waste, contends

> there have been enough indicators and enough time and enough money that there is no reason to grant a variance to [AER] in this matter. Tr. at 126.

Ms. Cox also emphasizes that the environmental protections that AER is being asked to do and the disparity with other states "have been in effect for six years." *Id.* at 127. Ms. Cox does not believe that there is anything new that meets the burden of a unique hardship. *Id.* Ms. Cox also questioned where various sums of money that AER had saved on previously performed cost-cutting measures had gone. *Id.* at 128-129.

Edyta Sitko, appearing on behalf of Green Peace Illinois, questioned whether AER would simply return in five years requesting another variance. Tr. at 162. Ms. Sitko also raised concern that, if AER is granted the variance, "what's to stop other coal plants in Illinois from getting the same thing." *Id.* at 164.

Katie Mimnaugh, appearing on behalf of Prairie Rivers Network, noted that AER has not demonstrated that installing dry scrubbers is technically infeasible or economically unreasonable. Tr. at 187. Ms. Mimnaugh also states that AER has not offered Illinois any environmental benefits, and that AER should have been able to anticipate its current position. *Id.* at 187-188. Ms. Mimnaugh echoed previous concerns regarding the precedential value of granting the variance, and emphasized that the Board is unable to grant a site-specific law that is inconsistent with federal law. *Id.* at 188-189.

## FILED PUBLIC COMMENTS

### Comments Filed on or before August 10, 2012

In addition to the ninety-five oral public comments during the hearing, the Board received 2,886 written public comments prior to the deadline for such comments on August 10, 2012.[10] These public comments have been made available on the Board's website.

### Public Comments in Support of AER's Variance Request

The Board received 1,864 written public comments in support of granting AER's variance request. These include comments filed by: State Representative David B. Ruis, 108th District (PC#2); State Representative Michael Unes, 91st District (PC#3); State Senator Dale A. Righter, 55th District (PC#4); and State Representative Brandon W. Phelps, 118th District (PC#8).

The Board received public comments from the Mayors of Newton (PC#1 and PC#146), Peoria (PC#139 and PC#150), Metropolis (PC#147), Joppa (PC#310), Effingham (PC#318), East Peoria (PC#319), Morton (PC#326) and Palestine (PC#1137). Additionally, the Board received public comments in support of granting AER's variance request from a number of other public offices, *e.g.*, the Jasper County Board (PC#5), the Massac County Board of Commissioners (PC#313) and the Board of the Village of Palestine (PC#1139).

The Board also received comments in support from organizations (*see, e.g.*, PC#133 from Illinois AFL-CIO), businesses (*see, e.g.*, PC#148 from the Outdoor Sportsman's Lodge), and individuals (*see, e.g.*, PC#814), including plant employees (*see, e.g.*, PC#2195).

Commenters generally voiced concerns relating to property taxes received by the AER plants (*see, e.g.*, PC#1) and the loss of jobs that would result from closing any of the plants. *See, e.g.*, PC#2. Commenters emphasized the difficulty that the current laws place on Illinois companies trying to compete with out-of-state energy producers, noting that prices will increase. PC#9. Commenters also noted the unpredictable economic climate surrounding AER resulting from

> a warmer than normal winter, a nationwide economic down turn lasting more than four years, a large amount of natural gas availability, due to shale fracturing, driving down the price of natural gas, all of which has kept the price [AER] can sell [its] power for at an all time low. One or two of these factors may have been foreseeable but not all of them coming together at one time. PC#2195 at 2.

The Board also received a number of letters in support of the variance noting that AER "simply needs more time to make the costly upgrades" and urging the Board to grant AER's

[10] The Board notes that three public comments (PC#1232, PC#2713 and PC#2729) have been erroneously included. Additionally, PC#10 and PC#1920 do not support or object granting AER's variance request.

variance request so that AER will not have "to jeopardize jobs and livelihoods of Illinois residents." *See, e.g.*, PC#980.

**Public Comments Opposing AER's Variance Request**

The Board received 1,017 written public comments opposing granting AER's variance request. These include comments filed by the People (PC#249 and PC#2410) and the Citizens Groups (PC#6 and PC#2409). The Board also received comments from environmental groups (*see, e.g.*, PC#2194 from Prairie Rivers Network, and PC#2412 from Peoria Families against Toxic Waste), medical professionals (*see, e.g.*, PC#1919 and PC#2648), and other concerned individuals (*see, e.g.*, PC#11).

The Board received a public comment signed by eighty-five health professionals, expressing their support for the MPS and urging the Board "to vote against any action eroding MPS standards." PC#2648 at 1. The health professionals noted the health impacts of $SO_2$, but also noted that $SO_2$ and $NO_x$ are "precursors to other harmful pollutants such as fine particulate matter and ground-level ozone." *Id.*, *see also* PC#1919.

Commenters generally noted AER's previous commitment "to a schedule for reducing its $SO_2$ and $NO_x$ pollution in return for more time to make its mercury pollution reductions," requesting that the Board hold AER "to the standard passed in 2006." PC#11. Other commenters contend that people in Illinois

> should not now have to suffer from years of extra pollution so that [AER] can continue to run old, dirty coal plants without modern pollution controls. PC#151.

Commenters also emphasized that all of the market factors contributing to AER's hardship were foreseeable, and that AER cannot contend that it faces a hardship when it expressly agreed with the MPS terms six years ago. PC#2412 at 1.

**Comments Filed After August 10, 2012**

The Board received 119 public comments following the public comment filing deadline, which have been made available on the Board's website. These included ninety-six comments in support of AER's variance request, and twenty-three comments opposing the request. The Board recognizes that public comments 2,995 through 3,005 consist of 2,372 individual letters opposing AER's variance request.

Included in the post-deadline public comments was a one-page letter in support of AER's variance request signed by U.S. Representatives Jerry Costello, John Shimkus and Aaron Schock. PC#2643. The Representatives emphasize the "significant hardships" that the MPS regulations place on AER's ability to operate its facilities in Illinois. *Id.* The Representatives urge the Board to approve the variance petition "[g]iven the potential impact to good-paying jobs and affordable energy for our constituents." *Id.* The Representatives believe that AER "is acting in good faith to meet its environmental obligations under the economic circumstances it faces." *Id.*

## DISCUSSION

The Act authorizes the Board to grant variances "beyond the limitations prescribed in this Act, whenever it is found, upon presentation of adequate proof, that compliance with any rule or regulation . . . would impose an arbitrary or unreasonable hardship." 415 ILCS 5/35(a). AER seeks relief from the requirements in Sections 225.233(e)(3)(C)(iii) and (iv) to comply with an overall $SO_2$ annual emission rate limit of 0.25 lb/mmBtu in 2015 and 2016 and 0.23 lb/mmBtu in 2017 and thereafter. Pet. at 1. AER requests a variance for five years beginning January 1, 2015 and ending December 31, 2019 from Section 225.233(e)(3)(C)(iii) for the overall $SO_2$ annual emission rate limit of 0.25 lb/mmBtu and a variance for three years and fifteen days beginning January 1, 2017 and ending January 15, 2020 from Section 233.255(e)(3)(C)(iv) for the overall $SO_2$ annual emission rate limit of 0.23 lb/mmBtu. Pet. at 1; AER First Response at 1.

To obtain a variance, AER must establish that the hardship from denying the variance from Sections 225.233(e)(3)(C)(iii) and (iv) "outweighs any injury to the public or the environment" from granting the variance. Marathon Oil Co. v. EPA, 242 Ill. App. 3d 200, 206, 610 N.E.2d 789, 793 (5th Dist. 1993). If AER only shows that compliance will be difficult, "that proof alone is an insufficient basis" for granting the variance. *Id.* Thus, "only if the hardship outweighs the injury does the evidence rise to the level of an arbitrary or unreasonable hardship." *Id.*

The Board has received a number of public comments raising concern over AER's perceived contract to enter into the MPS. *See e.g.*, PC#2409 at 23-24 (The Citizens Group's state that "AER's agreement with the State and other parties to enter into and abide by the MPS is the functional equivalent of a contract."). This Board has long held that it does not have the authority to enforce contractual agreements, and such disputes are more appropriately brought in a court of law. *See, e.g.*, Schilling, *et al.* v. Hill, *et al.*, PCB 10-100 slip op. at 8-9 (Aug. 4, 2011). However, Section 104.200(a)(1) of the Board's regulations defines a variance, in part, as "a temporary exemption from any specified rule, regulation, requirement or order of the Board, which may be granted by the Board with or without conditions for a period of time not to exceed five years. . . ." 35 Ill. Adm. Code 104.200(a)(1); *see also* 415 ILCS 5/35 (2010). The MPS is a Board rule. 35 Ill. Adm. Code 225.233. Therefore, the Board must look at the specific portions of the MPS from which AER seeks relief and determine whether AER has met its burden so that the request may be granted.

Accordingly, the Board will analyze the injury to the public and the environment from granting the requested variance, the hardship to AER from compliance with the rule, and weigh the hardship against the injury to determine whether AER has demonstrated that it would suffer an arbitrary or unreasonable hardship if the variance is not granted.

As discussed below, the Board finds that AER has adequately addressed its alternatives for complying with the current MPS requirements; that AER has demonstrated that the requested variance will result in a net benefit to the environment; that AER would suffer an arbitrary or unreasonable hardship if forced to comply with the deadlines in Sections 225.233(e)(3)(C)(iii) and (iv); that granting AER's petition for variance with conditions in the

order below would be within the State's current obligation under the Illinois SIP to attain and maintain compliance with the National Ambient Air Quality Standards (NAAQS); and that granting AER a variance from the rule is consistent with federal law.

**Compliance Alternatives**

The Citizens Groups and the People state that AER only suggested two compliance alternatives, the variance or the shuttering of multiple generating stations. In so doing, the Citizens Groups and the People argue that AER failed to address other strategies or a combination of strategies for complying with the MPS. PC#2409 at 9-11, PC#2410 at 2. The Citizens Groups and the People suggest AER more thoroughly analyze a combination of strategies to bring AER closer to compliance with the MPS during the term of the variance, including: (1) curtailing power production or derating, (2) using dry sorbent injection, (3) using ultra low-sulfur coal, (4) maximizing/optimizing existing scrubbers, and (5) maximizing operations and capacity at units with scrubbers. PC#249 at 7, PC#2409 at 11, PC#2410 at 2, 5. Additionally, the People also suggest use of dry scrubbers. PC#2410 at 3-5. The Citizens Groups also suggest AER more fully address natural gas conversions and seeking financing from its parent company to complete the Newton FGD project. PC# 6 at 4, PC#2409 at 11.

The Board does not agree with the conclusions of the Citizens Groups and the People. The Board finds that AER adequately detailed the range of compliance alternatives that AER examined in support of its petition. Nothing in this record contradicts AER's assessment of the compliance alternatives set forth below. The Board notes that the Agency response has not argued for availability of other compliance technologies, but rather has supported a 0.35 lb/mmBtu emission rate for AER's compliance plan. Agency Resp. at 11.

As to the first suggestion to curtail generation, AER acknowledged that this would reduce emissions, however, the fixed operating costs would remain essentially the same while less revenue would be generated to pay those costs. AER concluded that curtailing generation would put jobs at risk, result in a negative cash flow, and not allow AER to recover financially in order to fund the Newton FGD project. AER First Resp. at 2; AER Second Resp. at 2-3; Tr. at 22-23.

Regarding the second alternative of using dry sorbent injection, AER identified two main drawbacks: wide-ranging removal efficiencies from 10% to 90% and increased mass loading to the ESPs. AER Second Resp. at 2. AER explains that the variability in removal efficiencies reduces the effectiveness of dry sorbent injection as a compliance alternative. AER also explained that the increased mass loading from the dry sorbent injection to the ESPs would potentially trigger the need for bigger ESPs or additional controls, such as baghouses, to control particulate matter. AER projected that use of dry sorbent injection to comply with the MPS would require installation of dry sorbent injection equipment plus baghouses at virtually all of AER's uncontrolled units across its system. AER Second Resp. at 2, Tr. at 20-24, Hearing Exh. 1. AER estimated the cost of installing dry sorbent injection plus fabric filters at Joppa and Edwards at $433 million and $280 million, respectively, and noted that this would exceed the cost to complete the Newton FGD project. AER Post Br. at 15, 23.

As to the third alternative of using ultra low-sulfur coal, AER explains that the Coffeen and Duck Creek stations already have wet FGD systems which allow them to burn higher-sulfur Illinois Basin coal, while the Newton, Joppa, and Edwards stations use lower-sulfur coal as a compliance mechanism. In support of its variance request, AER commits to limit use of the higher $SO_2$ content Illinois Basin and Power River Basin coal to just the Duck Creek and Coffeen stations, and use ultra low-sulfur coal at the Edwards, Newton, and Joppa stations in order to comply with a $SO_2$ emission rate of 0.35 lb/mmBtu. AER First Resp. at fn. 2, AER Post Br. at 25.

As to the fourth and fifth alternatives of maximizing and optimizing existing scrubbers and operations, AER commits in its filings to support the variance to fully maximize operation of the existing FGD systems at the Duck Creek and Coffeen stations at a 98-99% $SO_2$ removal rate rather than 95%. AER Second Resp. at 2. AER notes that the scrubbers are not normally operated at such high efficiency removal levels because it degrades the plant and pollution control systems over time. Tr. at 25-26. AER's estimates its commitment will require $5 million in capital costs and $173,337 in annual operation and management costs. AER First Resp. at 8.

As to the People's suggestion to use dry scrubbers, AER explained that a dry scrubber would require construction of a multi-storied building and spray tower. With removal efficiencies in the low 90% range, AER estimated six dry scrubbers would be needed at Joppa to achieve the reductions approaching those projected for the wet FGD project at Newton. AER estimated costs for the dry scrubbers at $460 million, nearly twice the cost of completing the FGD project at Newton. AER Post Br. at 18. Further, AER notes that installation of dry scrubbers "may be ineffective in addressing hazardous gas emissions and, without additional add-on controls, could adversely affect impact particulate emissions." *Id.*

Regarding the alternative of natural gas conversions, AER considered the feasibility of conversions at the Edwards and Joppa stations. AER found that under the current market conditions, a natural gas conversion at Joppa would reduce operations to a seasonal basis only and lead to reduced revenue and a loss of jobs. AER Post. Br. at 23-24.

Concerning the issue of seeking financing from the parent company, AER explained that as a merchant business, AER must be self-funding and support its expenses through its own operating revenues, however, AER's earnings and cash flows "are insufficient to fund large-scale capital projects such as the installation of the scrubbers [at Newton]." Pet. at 22, Pet. Exh. 5 at 3. Since AER is not a publicly-registered company, it has no direct access to public financial markets. AER First Resp. at 4.

Additionally, without a secure revenue stream, AER states that its parent company, Ameren Corporation, cannot assume unsecured debt on AER's behalf. Pet. at 22. According to AER, the

> credit rating agencies . . . have . . . made it abundantly clear that further support from the parent [Ameren Corporation] will have negative consequences on the

> credit quality of [Ameren Corporation] and its other subsidiaries. Pet. Exh. 5 at 10.

Instead, AER has committed $16 million per year from 2013 to 2016 with greatly increased capital expenditures in 2018 and 2019 to complete the Newton FGD project, funds which AER states are within its budget. AER will also spend $5 million in capital and $173,337 in annual expenses to fully maximize the existing FGD systems at Duck Creek and Coffeen. Pet. at 19; AER First Resp. at 6-8, Tr. at 32, AER Post Br. at 38, 40.

AER explains that AER has considered all viable alternatives and determined that the installation of two scrubbers at Newton "would reduce emissions by approximately 17,500 tons of $SO_2$," which would result in lower emissions than the 16,000 tons $SO_2$ AER would need to reduce to comply with the 2017 MPS emission rate. AER Post Br. at 15-16. Until the Newton FGD project is complete, AER will meet the interim compliance emission rates by not operating the Hutsonville and Meredosia stations preceding and during the variance term. AER will also maximize efficiency of the FGD systems at the Duck Creek and Coffeen stations. AER First Resp. at 1-2. AER has also committed to purchasing low-sulfur coal for use at Edwards, Newton, and Joppa.

The Board observes that, in addition to the compliance alternatives AER suggested in its petition, AER also examined each of the options suggested by the Citizens Groups and the People. AER Post Br. at 15-25. AER found the other options suggested not viable either because they would not achieve compliance with the MPS, they would create co-pollutant emissions requiring costly additional controls, or they would worsen AER's financial situation. The Board observes that AER's proposal to complete the Newton FGD project would realize emission reductions greater than those required by the 2017 MPS requirements.

The Board finds that AER has adequately addressed its alternatives for complying with the current MPS requirements. Based on the analyses of compliance alternatives by AER, the Citizens Groups, and the People, the Board agrees that AER's chosen alternative to proceed with completion of the Newton FGD project, as well as maintain closures of the Hutsonville and Meredosia stations and comply with the proposed interim compliance emission rates during the variance period is appropriate.

## Environmental Impact of Requested Variance

### Environmental Net Benefit

AER states that it

> has voluntarily offered to meet an earlier more stringent $SO_2$ emissions rate in mitigation resulting in total $SO_2$ mass emissions lower than the projected emissions under the current MPS [overall] $SO_2$ annual emission rates, and providing a net environmental benefit to the State. Pet. at 26.

The Citizens Groups argue that AER's proposed variance will worsen air quality and not create any net air quality benefit. PC#6 at 9, PC#2409 at 36. The Citizens Groups present what they call a "corrected" version of AER's Table 1, eliminating the emissions reductions AER credited for the shutdowns of Meredosia and Hutsonville and the actual emissions during 2010 and 2011 as well as the heat input associated with the two shutdown plants. PC#2409 at 38-40. The Citizens Groups claim their revised calculations suggest the variance would allow AER to emit 32,760 more tons of $SO_2$ during the period of 2012 to 2020, and not result in a net reduction as AER claims. *Id.* at 38-41.

In response to the Citizens Groups' concerns and Board questions regarding calculations in AER's tables, AER responded by providing a new table (Exhibit 4) comparing reductions in $SO_2$ emissions under the MPS and the requested variance. To aid in a better review and understanding of the information, AER included two columns of additional data and explanatory notes. AER Post Br. at 38-39, Exh. 4. Unlike the Citizens Groups' version of the data, AER includes the heat input associated with Meredosia and Hutsonville as well as "$SO_2$ Reduced Tons" for not operating these facilities. AER also recognizes the possible increase in emissions from the proposed FutureGen Project by conservatively factoring in two times the projected $SO_2$ emissions. This results in "$SO_2$ reduced tons" of 7,699 for years 2012 through 2020. Comparing years 2010 through 2020, AER calculated the "Cumulative Reductions in $SO_2$ Variance Tons" would reflect a net benefit of 60,669 tons. AER Post Br. 38-40, AER Post Br. Exh. 4.

The Agency has "investigated the facts alleged in Petitioner's Petition for Variance" as required by 35 Ill. Adm. Code 104.216(a). Agency Resp. at 9. The Agency does not disagree with AER's emission calculations, either in the Agency's response to the initial petition or in any response to AER's later filed Tables 2, 3, 4, or Exhibit 4. The Agency agrees with AER's approach which includes the heat input and reductions associated with Meredosia and Hutsonville, explaining, "providing credit for actions (*e.g.*, unit shutdowns) that result in emission reductions is an acceptable part of the established regulatory process." Agency Resp. at 11, 21. The Agency goes on to explain,

> the 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. Agency Resp. at 21.

The Agency agrees that AER's compliance with an emission rate of 0.35 lb/mmBtu from January 1, 2013 through December 31, 2019, in conjunction with not operating the Meredosia and Hutsonville stations, "would result in a net environmental benefit." *Id.* at 21, 22. Further, the Agency "does not believe that any environmental harm would result therefrom." *Id.* at 22.

The Agency also discusses the variance request within the context of the State's obligations under the Illinois SIP. As discussed above, on July 6, 2012, USEPA approved the revisions to the Illinois SIP addressing regional haze. 77 Fed. Reg. 39943 (July 6, 2012). If the Board grants the instant variance, the Agency states that it will submit the variance order as a SIP revision. Agency Resp. at 19. The Agency states,

> [the Agency]'s analysis of the Petition indicates that if such relief is granted under the terms and conditions contained herein, there will be no detrimental impact in the ability to rely on the new variance-adjusted MPS emission reductions in the Illinois SIPs, as needed. Agency Resp. at 22.

Regarding a future SIP revision that would account for the instant variance, the Agency states,"[t]he Illinois EPA has had preliminary discussions with USEPA Region 5 regarding an SIP revision for pending variance requests and no adverse issues were identified." Agency Post Br. at 2.

USEPA explained the nature of the regional haze problem and its relationship with $SO_2$ in USEPA's proposed approval of Illinois' Regional Haze SIP:

> Regional haze is visibility impairment that is produced by a multitude of sources and activities located across a broad geographic area that emit fine particles ($PM_{2.5}$) (e.g., sulfates, nitrates, organic carbon, elemental carbon, and soil dust) and its precursors—[$SO_2$], [$NO_x$], and in some cases ammonia ($NH_3$) and volatile organic compound (VOCs). Fine particle precursors react in the atmosphere to form fine particulate matter. Aerosol $PM_{2.5}$ impairs visibility by scattering and absorbing light. Visibility impairment reduces the clarity and distance one can see. $PM_{2.5}$ can also cause serious health effects and mortality in humans and contributes to detrimental environmental effects such as acid deposition and eutrophication. 77 Fed. Reg. 3967 (Jan. 2, 2012).

In response to questions regarding the heat input values which would be most appropriate for calculations to support a SIP revision, the Agency responded that the original 2002 baseline year heat input is likely the value to be used in accordance with an USEPA memorandum on SIP Planning. Agency Post Br. at 2. In the notice of proposed approval of the Illinois SIP addressing regional haze, USEPA stated,

> [t]he MPS and CPS provide emission reduction well in excess of simply implementing BART on subject units . . . Illinois estimated that its plan will require 96,927 [tons per year (TPY)] lower $SO_2$ emissions than simply requiring BART. [US]EPA believes that Illinois has thereby demonstrated that the emission limits on the subject BART units covered by MPS and CPS satisfy the BART requirements. 77 Fed. Reg. 3973 (January 26, 2012).

AER states that the proposed interim $SO_2$ emission rates under the variance would result in mass emissions of $SO_2$ even lower than Illinois' statewide estimates under the current MPS requirements by the 2017 BART compliance deadline. AER also points out that the net reduction in $SO_2$ emissions continues to 2020 and beyond. AER Second Resp. at 7. AER states, "[a]ccordingly, an amendment to the SIP incorporating this variance request would only serve to enhance Illinois' ability to comply with the Clean Air Act and Regional Haze Rule." AER Second Resp. at 8.

As discussed below and considering all of the above points, the Board finds that AER has demonstrated that the requested variance will reduce $SO_2$ emissions during the term of the variance and result in a net benefit to the environment.

The Board finds that AER has demonstrated that by complying with an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu in 2012, 0.35 lb/mmBtu in 2013 through 2019, and 0.23 lb/mmBtu thereafter, together with not operating the Meredosia and Hutsonville stations through 2020, AER will reduce $SO_2$ emissions as compared to projected emissions under the MPS for the same time period. Specifically, AER estimates that it will emit 60,669 tons less $SO_2$ under the variance than under the MPS from 2010 through 2020 based on AER's latest table in Exhibit 4. The Board finds that the relevant period for analyzing the environmental impact of the variance is 2012 through 2020. The Board finds that subtracting the "$SO_2$ reduced tons" for years 2010 and 2011 would still result in a net environmental benefit of 33,544 tons[11].

The Board recognizes that AER's emission estimates show that it will emit more $SO_2$ under the variance than under the MPS in years 2015 through 2019. Specifically, from 2015 through 2019, the values presented in AER's Exhibit 4 show that AER will emit 259,395 tons of $SO_2$ under the variance compared to 202,565 tons of $SO_2$ under the MPS Baseline. In effect, AER will emit 56,830 more tons of $SO_2$ during these years[12]. However, the Board finds that the higher $SO_2$ emissions during the variance period are offset by the reduced $SO_2$ emissions during the calendar years of 2012, 2013, 2014 and 2020. Specifically, in 2012, 2013, 2014 and 2020, AER's Exhibit 4 shows that it will emit 192,196 tons of $SO_2$ under the variance compared to 282,571 tons of $SO_2$ under the MPS, *i.e.* AER will emit 90,375 fewer tons of $SO_2$ during these years[13]. As noted above, this results in a net benefit to air quality of reducing $SO_2$ emissions by 33,545 tons from 2012 through 2020[14].

**Health Effects**

A number of commenters raised concerns regarding the health impact of granting AER's variance petition, with many public comments citing specifically to personal health issues where they or a close friend or family member has suffered from asthma or lung cancer. *See e.g.*, Tr. at 93, 94, 146-147, 183, 185, 206. The Citizens Groups also raised concerns regarding the health impacts of "thousands of tons of additional emissions of $SO_2$ annually between 2015 and 2019 . . . ." PC#2409 at 47-48. The Citizens Groups presented letters signed by health professionals in Illinois who cite to the harmful effects of $SO_2$ emissions and voice concern at efforts to weaken the MPS. The health professionals explain, "[h]igh levels of $SO_2$ and $NO_x$ can exacerbate respiratory symptoms in at-risk individuals (including children and the elderly), including asthma and [Chronic Obstructive Pulmonary Disease (COPD)] attacks." PC#2409 Exh. 5 at 1.

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[11] 60,669 – 14,522 (for 2010) and 12,573 (for 2011) = 33,544 tons

[12] (Net Variance $SO_2$ Tons 51,879 x 5 years ) – (MPS Baseline $SO_2$ Tons (42,556 x 2) + (39,151 x 3)) = 56,830

[13] (MPS Baseline $SO_2$ Tons (85,112 x 2) + 73,196 + 39,151) – (Net Variance $SO_2$ Tons 56,986 + (51,879 x 2) +34,452 = 90,375

[14] 90,375 – 56,830 = 33,545 or 60,669 – 14,522 (for 2010) and 12,573 (for 2011) = 33,544 tons

Explaining that $SO_2$ is a precursor to $PM_{2.5}$, the health professionals refer to studies linking exposure to $PM_{2.5}$ and premature mortality and cardiovascular effects. *Id*.

Dr. Samuel Dorevitch, a medical doctor and associate professor at the University of Illinois at Chicago School of Public Health, stated, "[i]n light of the health impacts of even moderate levels of $SO_2$ pollution, and the long term health risks of $PM_{2.5}$ pollution, failure to lower them on the agreed upon schedule would be expected to keep rates of asthma attacks and other health problems higher than they would be at the agreed upon, lower levels." PC#1919 at 1.

The People argue that averaging AER's projected emissions over twelve years does not meet the intention of the MPS. The People assert a long-term averaging does not recognize health impacts that occur relatively quickly after $SO_2$ is emitted. PC#249 at 5. Therefore, the People argue that early reductions in $SO_2$ emissions are of little value because "a ton of $SO_2$ avoided in 2010 does not help an asthmatic . . . exposed to emissions in 2018 . . . ." *Id.*

In order to respond to questions raised about health effects, AER commissioned a review of AER's variance request and the potential health effects related to $SO_2$ emissions. AER Post Br. at 26; AER Post Br. Exh. 3. AER's report, citing a USEPA report[15], found no causal relationship between long-term exposure to $SO_2$ and respiratory symptoms. AER Post Br. at 44. AER's report further contends that, while there was a causal relationship found between short-term $SO_2$ exposure and respiratory symptoms, these findings were small and raised questions whether exposure and effect were causally associated. *Id.* AER's report further refutes the relationship between respiratory symptoms and $SO_2$ exposure by noting that none of these studies isolated the effects from $SO_2$ alone nor did they properly account for external factors such as smoking or allergens. *Id.* at 43, 44-45. AER contends that the People, in determining excess emissions, have ignored emission reductions that will commence immediately. *Id.* at 28. AER's report concludes that granting the variance "would result in an overall net benefit in terms of health effects." *Id.* at 43. The Board finds nothing in the record to undercut this assessment.

As explained above, AER's emission calculations show a net reduction in $SO_2$ emissions under the requested variance resulting in a net benefit to the environment which correlates to a net benefit to public health. Emission standards are risk-based standards which consider impacts to public health. The Agency agrees with AER's demonstration of a net environmental benefit, and notes that offsetting potential delays in emission decreases through unit shutdowns is an acceptable part of the regulatory process. Agency Resp. at 21. The Agency stated, "the emission reduction offsets that [AER] is seeking to rely on are creditable and allowable." Agency Resp. at 21. The Agency plans to submit the variance order if granted for approval as a SIP revision, noting that the interim $SO_2$ emission standards will not result in a detrimental impact in the emission reductions in the Illinois SIP. Agency Resp. at 11, 19, 22. After preliminary discussions with USEPA Region 5 regarding pending variance requests, the Agency stated that no adverse issues were identified. Agency Post Br. at 2.

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[15] Integrated Science Assessment for Sulfur Oxides-Health Criteria, EPA-600/R-08/047F (Sept. 2008).

Further, the Agency noted, "[t]he MPS was not designed to address the new 2010 1-hour $SO_2$ [NAAQS], which was not proposed at the time the MPS was being negotiated." Agency Resp. at 22. The Board notes that the new 1-hour $SO_2$ NAAQS addresses short term exposure and sets into motion a requirement for the states to assess attainment. 77 Fed. Reg. 46295 (Aug. 3, 2012). Based on the record at this time, the Board does not have enough information to determine if AER's variance will interfere with the State's ability to attain or maintain the new 1-hour $SO_2$ NAAQS or the proposed PM NAAQS because the MPS and current Illinois SIP do not yet address these standards. However, the Board finds that granting AER's petition for variance with the conditions in the order below would be within the State's current obligation under the Illinois SIP to attain and maintain compliance with the NAAQS.

**Meredosia and Hutsonville Closures**

The Board notes that the above emission projections of 33,545 fewer tons of $SO_2$ under the variance than under the MPS use an annual heat input of 340,446,252 mmBtu, which is the heat input AER used in 2009 during the R09-10 rulemaking proceeding and includes heat inputs for the Meredosia and Hutsonville stations. AER also projected $SO_2$ emissions resulting from the variance using an annual heat input of 312,003,694 mmBtu, which does not include heat inputs for the now closed Meredosia and Hutsonville stations, of 7,700 fewer tons $SO_2$ under the variance than under the MPS. The Board accepts the validity of using these respective heat inputs. The Board finds that the requested variance results in a net benefit to air quality, and in so doing, has accounted for the $SO_2$ emission reductions resulting from not operating the Meredosia and Hutsonville stations from 2012 through 2020.

The Board is not persuaded by the Citizens Groups' objection to using emission reductions from closing the Meredosia and Hutsonville stations to mitigate emission increases under the variance on the grounds that these closures would occur regardless of whether the variance is granted. PC#6 at 9; PC#2409 at 41-46. However, the Board agrees with the Agency that "providing credit for actions (e.g., unit shutdowns) that result in emission reductions is an acceptable part of the regulatory process" and "emission reduction offsets that Petitioner is seeking to rely on are creditable and allowable." Agency Resp. at 21. The Board further echoes the Agency explanation that the Board and Agency are "accustomed to recognizing and allowing such reductions to offset potential emission increases under the New Source Review and Prevention of Significant Deterioration permitting regulations." *Id.* The Board reminds that it has recently considered $SO_2$ emission reductions due to unit shutdowns in analyzing the environmental impact of a requested variance. *See* Midwest Generation, LLC – Waukegan Generating Station v. IEPA, PCB 12-121, slip op. at 16 (Aug. 23, 2012).

The Board finds it appropriate to account for emission reductions achieved through not operating the Meredosia and Hutsonville stations in determining the effect of the variance on $SO_2$ emissions. The AER MPS Group includes seven facilities, including Meredosia and Hutsonville, and the overall $SO_2$ annual emission rates in the MPS apply to all the facilities in the AER MPS Group. It is significant to note the MPS does not restrict the AER MPS Group from employing any specific methods to reach the required emission rates. Furthermore, there is no current regulatory requirement that these facilities must remain closed so granting this variance

with such a condition would ensure that these two stations remain closed during the term of the variance.

**Length of Dual Variance Periods**

The Board finds initially that, although the total length of the requested combined dual variance periods is five years and 15 days, the variance periods do not run afoul of the Act's requirement that the Board may issue a variance for a period not to exceed five years. *See* 415 ILCS 5/36(b). AER seeks relief from 35 Ill. Adm. Code 225.233(e)(3)(C)(iii) for five years beginning January 1, 2015 and ending December 31, 2019, and relief from 35 Ill. Adm. Code 225.233(e)(3)(C)(iv) for three years and fifteen days, beginning January 1, 2017 and ending January 15, 2020. Pet. at 1; AER First Resp. at 1.

The Board believes AER accurately points out 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 [sic] 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." AER Post Br. at 47 (emphasis in original).

Accordingly, the Board believes that the total length of the combined dual variance periods can be kept to 5 years. The Board will grant a variance from two separate regulatory requirements, each of which does not exceed five years, and cumulatively covers precisely five years from January 1, 2015 through December 31, 2019. As discussed below, the Board has considered various issues raised by the petition, AER's calculations, the Agency's response, and public comments with respect to this period of time.

The Board finds that the relevant period for analyzing the environmental impact of the variance is 2012 through 2020. The Board did not include emission estimates from 2010 and 2011 in finding that the variance will result in an overall reduction of $SO_2$ emissions. AER includes emission calculations for 2010 and 2011 in its petition, as well as in Tables 1, 2, and 3, and explains that it did so "to show the total tons of $SO_2$ reduced during the MPS period by the end of the requested variance term." AER Second Resp. at 5. AER also states that it included 2010 and 2011 "to illustrate that AER would be in the same position or better by the end of the variance term than as was projected under the MPS (that is, to make a true comparison, the entire period needs to be considered)." AER First Resp. at 10.

However, the Board finds that 2012 is the appropriate start point because the variance will be granted in 2012 and commits AER to complying with a more stringent overall $SO_2$ annual emission rate starting in 2012 of 0.38 lb/mmBtu, decreasing to 0.35 lb/mmBtu in 2013 as a prerequisite to the dual variance periods themselves. In addition, AER's demonstration and the variance conditions rely on the shutdown of the Meredosia and Hutsonville stations and these facilities ceased operations in December 2011 (Pet. Exh. 6 at 4; AER Post Br. Exh. 4).

The Board has included emission estimates for the full calendar year of 2020 in its analysis here of the environmental impact of the variance, because the variance requires that AER return to compliance with the 0.23 lb/mmBtu overall $SO_2$ annual emission rate in 2020. In addition, AER relies on the closure of the Meredosia and Hutsonville stations through 2020 to demonstrate that the variance will result in net benefit to the environment. Consequently, the Board includes the continued closure of Meredosia and Hutsonville through the end of 2020 as one of the conditions of the variance in the order below.

The People criticize AER's variance request stating that

> the problem with this framework [framing its compliance plan in terms of cumulative net emissions from 2010-2021] is that the MPS was not intended to be a 12-year averaging period of pollution reduction. PC#249 at 4.

However, the Agency response explains that the timing of the emission reductions in the MPS considered many variables, including AER's "ability to install pollution control equipment in a timely manner and a desire to achieve the greatest amount of reductions within a reasonable amount of time." Agency Resp. at 21-22. For its part, AER disagrees with the Peoples' characterization stating that its petition seeks "to delay the 2015 and 2017 rates such that it can complete installation of the pollution control equipment necessary to meet those rates." AER Second Resp. at 8. The Board notes that Section 104.204(g) of its rules requires AER to provide "[t]he nature and amount of emissions . . . of the constituent in question if the requested variance is granted, compared to that which would result if immediate compliance is required." AER's Tables 1, 2, 3, and 4 and Exhibit 4 provide this required information in various formats for the requested variance term.

The People argue that it is not appropriate to use a "long-term averaging analysis" because public health impacts from $SO_2$ occur quickly after being released. PC#249 at 5. In other words, the People object to offsetting emission increases in 2015 through 2019 with emission decreases in 2010 through 2014. *Id.* However, the Agency notes that the MPS "was not designed to address the new 2010 1-hour $SO_2$ National Ambient Air Quality Standard, which was not proposed at the time the MPS was being negotiated." Agency Resp. at 22.

As set forth above, the Board finds that it is appropriate to compare estimated $SO_2$ emissions under the MPS to estimated $SO_2$ emissions under the variance for 2012 through 2020 to determine the environmental impact of granting the variance. *See supra* at p. 49. Section 225.233(e)(3)(C) of the MPS, the subject of this variance petition, expressly provides for declining overall $SO_2$ annual emission rates over time in four increments from 2010 through 2017. The variance as granted adjusts the overall $SO_2$ annual emission rate during 2012 through 2019 and returns the company to compliance with the 2015 and 2017 standards in 2020. Although the numerical limits in the variance differ from Section 225.233(e)(3)(C), the Board finds that the intent to reduce $SO_2$ emissions by lowering the overall $SO_2$ annual emission rate over time is consistent between the variance and the MPS.

The Board rejects the suggestion of the Citizens Groups and the People that the variance be limited to two years. PC#2409, PC#2410 at 8. The variance provisions of Section

104.Subpart B require the petitioner's compliance plan to address achieving full compliance. See 35 Ill. Adm. Code 104.204(f)(1). AER's demonstration shows that full compliance cannot be achieved in two years by December 31, 2017. 415 ILCS 5/5(d). While the provisions of Section 233.225(e)(3)(C)(iii) cover only the years 2015 and 2016, a variance that only covers these two years would not recognize AER's compliance plan addressing achieving full compliance by December 31, 2019. Consequently, the Board finds that the record contains no adequate support for shortening the variance period to two years.

In summary, the Board finds that AER has demonstrated that the requested dual variance terms to 2020 are reasonable to allow AER to budget money and resources toward completion of the Newton FGD project and the costs of additional mitigation measures, including maximizing operation of the existing FGDs and purchasing low-sulfur coal during the interim. Further, the Board finds that the requested variance is consistent with the Act, which provides that the Board may grant a variance from a regulation for a period not to exceed five years. Here, the dual variance periods overlap, each one running five years or less, such that the total length of the dual variance terms spans precisely five years, commencing January 1, 2015 and ending December 31, 2019.

**Mercury Emissions**

The Board notes that the Illinois Mercury Rule promulgated in R06-25, specifically Section 225.230, provides numerical emission limits for existing EGUs and generally requires such units to meet a mercury emission limit of 0.0080 lb/GWh gross electrical output or a minimum 90 percent reduction of input mercury by July 1, 2009. 35 Ill. Adm. Code 225.230(a). For companies opting in to the MPS, the requirement to meet this same numerical limit is extended to January 1, 2015. 35 Ill. Adm. Code 225.233(d)(1). However, during this interim period, facilities covered by the MPS are required to operate mercury emission control devices, generally either halogenated activated carbon injection systems or selective catalytic reduction systems and $SO_2$ scrubbers. 35 Ill. Adm. Code 225.233(c).

The Board finds that there is no impact on mercury emissions attributable to the variance request, based on the information discussed below. AER seeks a variance from the overall $SO_2$ annual emission rate in Sections 225.233(e)(3)(c)(iii) and (iv). Granting a variance from Sections 225.233(e)(3)(c)(iii) and (iv) has no effect on mercury emissions. AER will continue to be subject to mercury control requirements in Section 225.233(c) and will be subject to the 0.0080 lb/GWh in January 2015 under Section 225.233(d)(1).

Many commenters argue that AER's variance petition should be denied because AER negotiated and opted in to the MPS in order to be subject to less stringent mercury standards in exchange for reducing $SO_2$ and $NO_x$ emissions. *See, e.g.*, PC#11. By opting in to the MPS, commenters allege AER benefitted from delaying compliance with mercury standards until 2015.

In response, AER states,

> [t]he 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 Post Br. at 49-50.

The record demonstrates that AER has installed such mercury control equipment. Specifically, AER installed activated carbon injection systems on twelve units at four stations to control mercury emissions at a capital cost in excess of $20 million. Pet. at 28. AER spends $17 million in annual operating costs for these systems. *Id.* AER installed four SCRs and three FGD systems to control mercury as well as $NO_x$ and $SO_2$. *Id.* AER spent $177 million to install the SCRs and spends approximately $3.9 million in annual operating and maintenance costs. Pet. at 28. AER spent $813 million to install the FGD systems and spends approximately $3.5 million annually in operating and maintenance costs. *Id.* AER is continuing to test the equipment to achieve more effective control. Pet. at 28, AER Post Br. at 50. At five units, AER has already recorded mercury emissions below the 2015 standard, and AER continues to test various control methodologies and reagents at nine other units. AER asserts, "[t]he 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." AER Post Br. at 50.

AER expressly states that it does not seek a change to applicable mercury requirements and will comply with the 0.0080 lb/GWh limit by January 1, 2015. Pet. at 28, Pet. Exh. 7 at 2. The federal standard under the new MATS program limits mercury emissions to 0.013 lb/GWh by 2015 which may be extended under certain circumstances. 77 Fed. Reg. 9304 (Feb. 16, 2012). AER further points out that the Illinois requirement is stricter than the federal requirement. Pet. at 28.

Based on the above, the Board finds grant of the variance has no impact on mercury emissions.

## Alleged Hardship to AER from Scheduled Compliance

AER asserts that compliance with the 2015 and 2017 overall $SO_2$ annual emission rates in Sections 225.233(e)(3)(C)(iii) and (iv) creates an arbitrary or unreasonable hardship on AER. Pet. at 4, 11. AER contends that the following events were not foreseen when Sections 225.233(e)(3)(C)(iii) and (iv) were adopted and therefore impose an undue hardship on AER: (a) legal challenges to federal regulations underpinning the MPS; and (b) declining power prices. Pet. at 10-11.

### Effectiveness of Adopted Federal Regulations Delayed

AER contends that it opted into the MPS in 2007 with the expectation that future federal regulatory requirements for its EGUs were imminent. Pet. at 11. Now that these federal rules (CAIR, CAMR, and CSAPR) have been challenged, stayed, and remanded in various federal court proceedings, AER argues that Illinois-specific MPS requirements cause it an arbitrary and unreasonable hardship for two reasons.

First, AER asserts that the MPS requires Illinois electric generating units to control $NO_x$ and $SO_2$ emissions "even in the absence of a permanent and effective federal emission program like CAIR." Pet. at 15. CSAPR, the replacement for CAIR, was scheduled to take effect on January 1, 2012 but was stayed. AER argues that it is arbitrary and unreasonable to require it to comply with the MPS if there is no federal program requiring that level of control. *Id.*

Second, AER argues that Illinois-specific MPS requirements place it at a competitive disadvantage with generators in nearby states. Pet. at 16-17. AER claims that it competes with generators in nearby states "that have neither deregulated their energy markets nor invested significant capital in environmental pollution control projects." *Id.* at 16. These companies are able to recover compliance costs through rates but AER does not have revenue from a captive consumer base to fund environmental compliance costs. *Id.* If the CSAPR had become effective on January 1, 2012, the CSAPR would have "level[ed] the playing field" between Illinois generators and competitors in nearby states. *Id.* at 16-17.

In contrast to commenters opposing grant of the variance, AER states that it did not seek deregulation (AER Post Br. at 9) and that its intended benefit from opting in to the MPS has not occurred. AER Post Br. at 51. This benefit was the alignment of the MPS's $NO_x$ and $SO_2$ emission requirements with AER's control strategy for compliance with then-pending CAIR regulations. *Id.*

**Declining Power Prices**

AER had analyzed the costs of compliance with the MPS when the MPS was promulgated in 2006. Pet. at 17. AER claims that compliance with the 2015 and 2017 overall $SO_2$ annual emission rates is "no longer economically reasonable." *Id.*

AER plans to construct two FGD units at the Newton station. Pet. at 18. AER states that it has spent $237 million to date on the project. *Id.* Through 2012, AER will have spent "over 50% of the project cost." *Id.* AER claims that it can no longer fund the Newton FGD project in time to comply with the 2015 and 2017 $SO_2$ emission rates. *Id.* at 19. AER attributes its lack of available funds to declining power prices due to "the recession, the exceptionally mild weather this winter, and an increased supply of natural gas from shale gas." *Id.* AER states that in 2006 and 2007 the price per megawatt hour was approximately $60 and in 2012 the price ranges from $29.50 to $33.60 per megawatt hour. *Id.* at 20. AER states that "power prices over the next three years are not expected to improve to the level to support the installation of the Newton FGD [p]roject by either 2015 or 2017." *Id.* at 20, *citing* Pet. Exh. 9.

AER claims that declining power prices have reduced operating proceeds and adversely impacted AER's access to short-term and long-term financing. Pet. at 20. AER states that net income for Ameren Energy Generating Company, owner of the Newton station, has dropped by over 95% since 2008. *Id. citing* Pet. Exh. 5. AER claims that it is unable to borrow funds to complete the project because its interest rate ratio is expected to fall below the required minimum contained in existing debt covenants. *Id.* at 21-22. AER also contends that it is unable to obtain funding from Ameren Corporation. *Id.* at 22; AER First Resp. at 4-5.

AER asserts that with no "viable funding mechanism" for the Newton FGD project, AER's "only other compliance alternative" to comply with the overall $SO_2$ annual emission rate in the MPS is to close at least two plants, such as Joppa, E.D. Edwards, or Newton. Pet. at 23. AER's consultant reports that AER puts $44.4 million in the local economy near the E.D. Edwards plant and $124,071,000 in the State's economy due to the plant. *Id.* at 24. The report concludes that AER puts $76.7 million in the local economy near the Joppa station and $214,221,000 in the State's economy due to the Joppa station. *Id.* The two plants employ 274 persons and "supported an additional 1209 total jobs held by Illinois residents." *Id.*

**Weighing Environmental Impact against Hardship to AER**

The Board has previously found that the environmental impact of the requested variance is a net benefit to air quality. *See supra* at p. 50. AER has shown that the variance will result in a net decrease of 33,545 tons of $SO_2$ emissions from 2012 through 2020. AER will achieve this net reduction in emissions by taking credit for the closure of the Meredosia and Hutsonville stations, operating FGD equipment at the Coffeen and Duck Creek stations at a higher efficiency 98%-99% $SO_2$ removal rate, and using low-sulfur coal. The Agency agrees that granting a variance imposing an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from January 1, 2013 through December 31, 2019, together with closing the Meredosia and Hutsonville stations, results in a net environmental benefit. Agency Resp. at 22. Further, the Agency "does not believe that any environmental harm would result therefrom." *Id.* Accordingly, the Board is persuaded that the overall reduction in $SO_2$ emissions resulting from this variance favors granting the variance.

The People argue that the environmental impact of increased $SO_2$ emissions from 2015 to 2019 is the environmental impact which should be weighed against the hardship claimed by AER. PC#249 at 5. However, as discussed above, the Board has determined that the environmental impact of the requested variance from 2012 through 2020 is the impact to be weighed against any hardship to AER.

In light of the overall reduction in $SO_2$ emissions from the requested variance, the Board considers the alleged hardships to AER from not granting the variance. The public comments made at hearing and received by the Board do not persuade the Board to find that AER's asserted hardship is self-imposed. AER contends that the new methods of gas extraction are a "game-changing" technology that have "fundamentally altered" the outlook for gas supplies and pricing. AER Post Br. at 10. This competition has led to a decline in cash flow to the AER MPS Group. *Id.* at 7. None of the commenters opposing granting the variance directly refute this position. Instead, they state that market changes should be foreseeable and not excuse AER from meeting its MPS requirements. *See, e.g.*, PC#2409 at 24. The Board finds that the hardship is not self-imposed.

In considering hardship, the Board has also taken into account that AER has already spent $237 million(nearly 50% of the cost) on the Newton FGD project, and that AER has also budgeted $16 million per year from 2013 to 2016 with greatly increased capital expenditures in 2018 and 2019 to complete the Newton FGD project. Pet. at 19; AER First Resp. at 6; Tr. at 32; AER Post Br. at 38, 40. AER has further spent over $813 million to install scrubbers on three of

its generating units, and has provided the Board with a detailed chart outlining the various pollution control devices installed at the Coffeen, Duck Creek, E.D. Edwards, Joppa and Newton Energy Centers. AER Post Br. at 31-36. In addition, the Board has considered the decline in electricity prices from approximately $60 per megawatt hour in 2006 and 2007 to $29.50 to $33.60 per megawatt hour for June 2013 through May 2014 and AER's representation that "power prices over the next three years are not expected to improve to the level to support the installation of the Newton FGD Project by either 2015 or 2017." *Id.* at 20, citing Exh. 9.

The Agency concludes that the revised variance proposal is "acceptable" to the Agency. Agency Resp. at 7. Specifically, the Agency and AER have agreed to an alternative variance proposal where AER commits to complying with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from January 1, 2013 through December 31, 2019. *Id.* at 21. The Agency states that this revised compliance proposal satisfies the Agency. *Id.*

Considering the overall reduction in $SO_2$ emissions during the term of the requested variance, the Board finds that requiring AER to comply with the December 31, 2015 deadline in Section 225.233(e)(3)(C)(iii) and the December 31, 2017 deadline in Section 225.233(e)(3)(C)(iv) would impose an arbitrary or unreasonable hardship on AER.

## Consistency with Federal Law

The Board has authority under Section 110 of the Clean Air Act to adopt regulations that are part of the State's plan for implementation, maintenance, and enforcement of air quality standards. The variance procedure to grant relief from a Board regulation is consistent with the authority granted to the states under Section 110 of the Clean Air Act. The Agency informs the Board that it will submit the variance order, if granted by the Board, for approval as a revision to the Illinois SIP. Agency Resp. at 19. The Agency states it "has had preliminary discussions with USEPA Region 5 regarding an SIP revision for pending variance requests and no adverse issues were identified." Agency Post Br. at 2. The Agency also notes that granting the variance under the alternate proposal agreed between the Agency and AER will have "no detrimental impact in the ability to rely on the new variance-adjusted MPS emission reductions in the Illinois SIP, as needed." Agency Resp. at 22. Upon reviewing the entire record, the Board finds that granting AER's petition for variance with the conditions in the order below would be within Illinois' current obligation under the Illinois SIP to attain and maintain compliance with the NAAQS. The Board, therefore, finds that granting AER a variance from the rule is consistent with federal law.

The Board notes, as AER recognizes, that if federal rules, such as a CAIR or CSAPR replacement, ultimately go into effect, AER might need to implement additional controls. Additionally, the Board notes that USEPA adopted a new primary NAAQS for $SO_2$ of 0.75 ppb on June 22, 2010, which became effective on August 23, 2010. 75 Fed. Reg. 35520 (June 22, 2010). USEPA gave the states until June 3, 2013 to promulgated initial area designations for attainment. 77 Fed. Reg. 46295 (August 3, 2012). USEPA stated

> any State containing an area designated as nonattainment with respect to the $SO_2$ NAAQS would need to develop for submission to [US]EPA a SIP meeting the

> requirements of part D, Title I, of the CAA, providing for attainment by the applicable statutory attainment date . . . all components of the $SO_2$ part D SIP must be submitted within 18 months of the effective date of an area's designation as nonattainment. 75 Fed. Red. 35577 (June 22, 2010).

Later on June 29, 2012, USEPA also proposed to make revisions to the primary and secondary NAAQS for particulate matter ($PM_{2.5}$ and $PM_{10}$[16]). 77 Fed. Reg. 38890 (June 29, 2012).

Since many rules at the federal level impact State regulations, the new federal rules have the potential to trigger related rulemakings on a statewide basis. As a result, the Board notes that the regulatory sections from which AER seeks relief might necessarily be amended as a result at some point in time. Because AER's requested dual variance periods would not commence until 2015 and 2017, this would allow the requested relief to occur farther into the future when changes at the State level might be implemented that would impact the sections from which AER currently seeks relief. Lastly, any changes to the Board rules will proceed through the rulemaking process, and all parties here will have an opportunity at the time to reassess AER's prospects as suggested by the Citizens Groups.

## Compliance Plan

For the reasons below, the Board finds that AER's compliance plan is sufficiently definite to support granting the variance.

### AER's Intent to Comply

The Citizens Groups argue that AER's compliance plan is not definite because of its reliance on market conditions and, further, that AER has not shown it will comply with a proposed compliance plan. PC#6 at 7, PC#2409 at 2.

The Board notes that, although the rate of AER's progress would be dependent on market conditions, the dual variance periods would not be. AER would be required to achieve compliance with the 0.23 lb/mmBtu and 0.25 lb/mmBtu annual $SO_2$ emission rates starting on January 1, 2020. Furthermore, the compliance plan explicitly requires AER to meet an annual $SO_2$ emission rate of 0.35 lb/mmBtu through 2019.

The Board notes that AER is committing significant financial resources that AER states are already budgeted. AER has already spent $237 million on the Newton FGD project as of May 2012, and by the end of 2012, AER will have spent over 50% of the project cost. Pet. at 19. AER has budgeted roughly $16 million per year from 2013 to 2016 with greatly increased capital expenditures in 2018 and 2019 to complete the Newton FGD project. Pet. at 19; AER First Resp. at 6; Tr. at 32; AER Post Br. at 38, 40. AER will also spend $5 million in capital and $173,337 in annual expenses to fully maximize the existing FGD systems at Duck Creek and Coffeen during the course of the variance. AER First Resp. at 8. Additionally, AER will bear

[16] Particles generally less than or equal to 2.5 and 10 micrometers in diameter, respectively. 77 Fed. Red. 38890 (June 29, 2012).

lost revenue from the continued closures of Hutsonville and Meredosia, and higher costs for the purchase of low-sulfur coal at the Edwards, Newton and Joppa stations. AER adds,

> AER has every incentive to complete the [Newton FGD] project and it cannot even begin to recoup its financial investment unless and until the project is completed[]. AER Post Br. at 37.

**Newton FGD Project Progress Reports**

The Board notes that AER proposed, as a condition of the variance, to provide annual progress reports on the status of construction activities relating to the Newton FGD project. AER First Resp. at 6. The Board may specify periodic progress reports in granting a variance pursuant to 415 ILCS 5/36(b) and has required such reports as a condition of the variance. Although AER proposes providing both the Board and the Agency with annual progress reports, the Board notes that once a case is closed, providing progress reports to just the Agency instead would be more appropriate. The Board will include the requirement for annual progress reports to be submitted to the Agency in the conditions of the variance.

**Newton FGD Project Time Schedule**

The Citizens Groups argue that AER's compliance plan is not definite because it lacks a time schedule for important phases of the Newton FGD project required by 35 Ill. Adm. Code 104.204(f). PC#2409 at 2-6.

AER did not submit a detailed compliance plan with its petition. In written questions to AER, the Board requested that AER provide an estimated timeline for phases of the compliance plan including engineering, site preparation, foundation work, duct work, fabrication, field construction activities, startup, and any other significant phases. AER provided general information on certain construction activities but no detailed timeline of specific activities. AER First Resp. at 6. The Board then asked follow-up questions at the August 1 hearing on the timing of activities needed to complete the Newton FGD project. In its post-hearing brief, AER again declined to provide a detailed timeline, stating it is difficult to provide a specific and targeted prospective schedule beyond the categories of work previously provided to the Board. AER Post Br. at 38. AER contends that a specific timeline establishing construction and project milestones cannot be provided until an in-service date is fixed. *Id.* AER states

> [o]nce 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." *Id.*

AER does note if relief is granted, AER'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. *Id.*

The Board has extracted from the record the following information as to AER's anticipated timeline for completing the Newton FGD project. AER stated all the major equipment components for the Newton FGD project have already been procured. Pet. at 9. AER has already scheduled construction work through the end of 2013. AER First Resp. at 6. AER stated that engineering design is expected to be complete in 2014. *Id.* AER stated that work on the electrical systems and piping connections will be deferred. *Id.* AER lists other work that will be performed during the dual variance period including site preparation and foundation work, delivery of major equipment sets that will be rough set into position at the site, ductwork that will be fabricated and insulation that will be applied, and the absorber building that will be constructed. AER First Resp. at 6, Tr. at 31-32. AER has budgeted $16 million per year from 2013 to 2016 to complete the Newton FGD project and AER explains "[e]verything that can be done on the ground including the construction of the new chimney stack will be performed." AER Post Br. at 38. In 2018 and 2019, AER will need to greatly increase its capital expenditures to comply with the MPS by January 2020. *Id.* When the "project ramps back up," field construction is expected to take 24 months. Pet. at 9.

The Board agrees with the Citizens Groups that AER has not provided a sufficient compliance plan as required by Section 104.204(f) despite several opportunities to do so. AER stated that it plans to comply with the overall $SO_2$ annual emission rate under 35 Ill. Adm. Code 225.233(e)(3)(C)(iii) and (iv) by completing the FGD project at the Newton station by the end of the variance period. Pet. at 9. Throughout this proceeding, AER has not indicated that it would use any other equipment at any other plant to meet the annual $SO_2$ emission rates. While AER provided some information regarding expected dates and timeframes for completing the Newton FGD project to achieve compliance, AER did not propose a specific time schedule for implementation of all phases of the Newton FGD project. Pet. at 9, AER First Resp. at 6; AER Post Br. at 37, 38, 40. The Board finds that AER's compliance plan must include specific dates to demonstrate progress toward achieving compliance with the applicable requirements. Based on the information in the record, AER's estimation that field construction activities could take approximately 24 months to complete, and an in-service date of no later than January 1, 2020 for the Newton FGD equipment, the Board will assign dates to the elements of AER's Newton FGD project in the variance conditions under the order below. The Board notes that AER may file a motion for modification of internal variance compliance dates under 35 Ill. Adm. Code 104.212.

AER states that it is unable to provide a date certain by which AER will know if completion of the scrubber project before January 2020 is feasible. Tr. at 32-33; AER Post Br. at 40. Therefore, AER proposes, "in the event completion of the FGD system become infeasible, AER agrees to advise the Board and the Agency of alternative plans for compliance during the remaining term of the variance." AER First Resp. at 11. The Board notes that if AER were to develop "alternative plans for compliance," AER would not be able to amend the instant variance but would need to seek new relief.

## Additional Variance Conditions

As discussed below, the Board will additionally impose variance conditions agreed to be the parties, as outlined in the Board's order. The Board has previously discussed and rejected

suggestions by the Citizens Groups and the People for inclusion of conditions shortening the term of the variance and imposing new compliance plan restrictions, and therefore, these will not be repeated here.

AER's petition did not include proposed language for the variance conditions but generally discussed terms that might be included in a Board order, including a requirement to comply with an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu through the end of 2019. Pet. at 8-9. In response to questions from the Board, AER proposed the following additional variance conditions and agreed to comply with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu during the variance period:

1. AER agrees not to operate the Hutsonville and 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 completion of the FGD system become infeasible, AER agrees to advise the Board and the Agency of alternative plans for compliance during the remaining term of the variance. AER First Resp. at 10-11.

The Agency response did not provide specific draft language for the variance conditions. But, the response finds acceptable imposition of an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019 in conjunction with requiring the continued closure of the Meredosia and Hutsonville stations.

The Board finds it appropriate to impose conditions to account not only for the interim $SO_2$ emission rates, but also for emission reductions achieved through not operating the Meredosia and Hutsonville stations in determining the effect of the variance on $SO_2$ emissions through 2020 as provided in AER's demonstration. *See* AER Post Br. Exh. 4. Furthermore, since there is no current regulatory requirement that these facilities must remain closed, the Board will impose a condition ensuring that these two stations remain closed through the end of 2020.

As a condition of the variance, AER has also agreed to provide annual progress reports on the status of construction activities relating to the Newton FGD project. In addition, the Board has added conditions to the variance presenting a detailed schedule for completion of the Newton FGD project.

The Board will provide conditions to the variance, consistent with this opinion, in the order below.

## CONCLUSION

While the Board today grants AER's request for variance, the Board is cognizant that this is AER's second request for a change in the MPS requirements. AER filed a joint proposal during the Board's R06-25 rulemaking to adopt the MPS and later proposed AER-specific revisions to the MPS in the Board's R09-10 rulemaking. AER has now been given multiple opportunities to comply with $SO_2$, $NO_x$ and mercury emissions requirements, and to develop a compliance plan that AER can implement.

The Board finds that AER has demonstrated that requiring compliance with the overall $SO_2$ annual emission rates in Sections 225.233(e)(3)(c)(iii) and (iv) by 2015 and 2017, respectively, will impose an arbitrary or unreasonable hardship on AER. AER has committed to an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019 in conjunction with the continued closure of the Meredosia and Hutsonville stations, increased efficiency of the FGD units at the Coffeen and Duck Creek stations, and the use of low-sulfur coal. The Board finds this compliance plan is satisfactory, as it results in an overall reduction of $SO_2$ emissions from 2012 through 2020, and provides a net benefit to Illinois air quality.

Accordingly, the Board grants AER combined dual variances for the period beginning December 31, 2015 until December 31, 2019 from the requirements of 35 Ill. Adm. Code 225.233(e)(3)(C)(iii) and for the period beginning January 1, 2017 until December 31, 2019 from the requirements of 35 Ill. Adm. Code 225.233(e)(3)(C)(iv), subject to the conditions outlined in the order below.

## ORDER

The Board grants Ameren Energy Resources (AER) combined dual variances for the electrical generating units in AER's multi-pollutant standard (MPS) Group from the applicable requirements of 35 Ill. Adm. Code 225.233(e)(3)(C)(iii) for a period beginning January 1, 2015 through December 31, 2019 and 35 Ill. Adm. Code 255.233(e)(3)(C)(iv) for a period beginning January 1, 2017 through December 31, 2019, subject to the following conditions.

1. From the date of this order through December 31, 2012, AER must comply with an overall $SO_2$ annual emission rate of 0.38 lb/mmBtu.

2. From January 1, 2013 through December 31, 2019, AER must comply with an overall $SO_2$ annual emission rate of 0.35 lb/mmBtu.

3. Beginning January 1, 2020, AER must comply with an overall $SO_2$ annual emission rate of 0.23 lb/mmBtu.

4. From the date of this order through December 31, 2020, AER must not operate the electrical generating units at Meredosia and Hutsonville Power Stations. The FutureGen project at the Meredosia Energy Center is exempt from this restriction.

5. Regarding the Flue Gas Desulfurization project at the Newton Power Station (I.D. No. 079808AAA) (Newton FGD project):

   a. On or before July 1, 2015, AER must complete engineering work on the Newton FGD project.

   b. On or before December 31, 2017, AER must obtain a new or extended construction permit, if needed, for the installation of the FGD equipment at the Newton Power station.

   c. On or before December 31, 2018, AER must complete construction of the absorber building on the Newton FGD project.

   d. On or before July 1, 2019, AER must complete steel fabrication of ductwork and insulation activities on the Newton FGD project.

   e. On or before July 1, 2019, AER must complete installation of electrical systems and piping on the Newton FGD project.

   f. On or before September 1, 2019, AER must set major equipment components into final position on the Newton FGD project.

   g. Beginning with calendar year 2012 and continuing through 2019, AER must file annual progress reports with the Agency as to the status of construction activities relating to the Newton FGD project by the end of each calendar year. AER's annual progress reports must include an itemization of activities completed during the year, activities planned to be completed in the forthcoming year, progress of the Newton FGD project to comply with the timelines specified in this variance, and the estimated in-service date. Annual progress reports must be submitted to :

      Illinois Environmental Protection Agency
      Attn: Ray Pilapil, Manager
      Bureau of Air-Compliance Section
      1021 N. Grand Ave. East
      P.O. Box 19276
      Springfield, IL 62794-9276

      and

      Illinois Environmental Protection Agency
      Attn: Gina Roccaforte, Assistant Counsel
      Division of Legal Counsel-Air Regulatory Unit
      1021 N. Grand Ave. East
      P.O. Box 19276
      Springfield, IL 62794-9276

IT IS SO ORDERED.

If petitioner chooses to accept this variance, petitioner must, within 45 days after the date of this opinion and order, file with the Board and serve on IEPA a certificate of acceptance and agreement to be bound by all the terms and conditions of the granted variance. "A variance and its conditions are not binding upon the petitioner until the executed certificate is filed with the Board and served on the Agency. Failure to timely file the executed certificate with the Board and serve the Agency renders the variance void." 35 Ill. Adm. Code 104.240. The form of the certificate follows:

**CERTIFICATE OF ACCEPTANCE**

I (We), _____, having read the opinion and order of the Illinois Pollution Control Board in docket PCB 12-126, dated September 20, 2012, understand and accept the opinion and order, realizing that this acceptance renders all terms and conditions of the variance set forth in that order binding and enforceable.

Petitioner: AMEREN ENERGY RESOURCES

By: _____
Authorized Agent

Title: _____

Date: _____

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2010); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, John Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above order on September 20, 2012, by a vote of 4-0.

_____
John Therriault, Assistant Clerk
Illinois Pollution Control Board

**Attachment A – Hearing Commenters in Support of Ameren Energy Resources Requested Variance**

The following list consists of commenters who appeared at the Board's August 1, 2012 hearing in support of Ameren Energy Resources variance request. The commenter's name appears on the left, with the citation to the August 1, 2012 hearing transcript appearing on the right.

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| Chris Skates | 256 |
| Mike Pierson | 258 |

**Attachment B – Hearing Commenters Opposing**
**Ameren Energy Resources Requested Variance**

The following list consists of commenters who appeared at the Board's August 1, 2012 hearing opposing Ameren Energy Resources variance request. The commenter's name appears on the left, with the citation to the August 1, 2012 hearing transcript appearing on the right.

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