

ILLINOIS POLLUTION CONTROL BOARD

April 4, 2013

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| MIDWEST GENERATION, LLC |) | |
| |) | |
| Petitioner, |) | |
| |) | |
| v. |) | PCB 13-24 |
| |) | (Variance - Air) |
| ILLINOIS ENVIRONMENTAL |) | |
| PROTECTION AGENCY, |) | |
| |) | |
| Respondent. |) | |

KATHLEEN BASSI, STEPHEN BONEBRAKE, AND ANDREW SAWULA, SCHIFF HARDIN LLP, APPEARED ON BEHALF OF PETITIONER; AND

DANA VETTERHOFFER, ASSISTANT COUNSEL, APPEARED ON BEHALF OF RESPONDENT.

OPINION AND ORDER OF THE BOARD (By J.D. O’Leary):

Midwest Generation, LLC (Midwest Generation) has petitioned the Board for a variance from certain air pollution control requirements applicable to specified electric generating units (EGUs) at several of the company’s coal-fired power plants. Under the Environmental Protection Act (Act) (415 ILCS 5/35-38 (2010)), the Board is responsible for granting a variance when a petitioner demonstrates that compliance with a Board regulation or order would impose an “arbitrary or unreasonable hardship” on the petitioner. *See* 415 ILCS 5/35(a) (2010). Midwest Generation asks for relief both from provisions of the Combined Pollutant Standard (CPS) regulations (35 Ill. Adm. Code 225.295, 225.296) and from a condition of the Board’s order in Midwest Generation, LLC - Waukegan Generating Station v. IEPA, PCB 12-121 (Aug. 23, 2012) (Waukegan Order). Five of Midwest Generation’s electric generating stations with coal-fired boilers are at issue in this proceeding: Crawford Generating Station (Cook County); Joliet Generating Station (Will County); Powerton Generating Station (Tazewell County); Waukegan Generating Station (Lake County); and Will County Generating Station (Will County).

In its petition filed November 30, 2012 (Pet.), Midwest Generation asks for a variance from three requirements. First, the company seeks relief from the system-wide average annual sulfur dioxide (SO₂) emission rates set forth in Section 225.295(b) (35 Ill. Adm. Code 225.295(b)) for the two-year period of January 1, 2015 through December 31, 2016. Pet. at 1, 52. Second, Midwest Generation seeks relief from Section 225.296(a)(2) (35 Ill. Adm. Code 225.296(a)(2)) for a period of five months, delaying that requirement until May 31, 2015. *Id.* at 1, 6. Section 225.296(a)(2) requires Midwest Generation to install flue gas desulfurization equipment on, or permanently shut down, Waukegan Unit 8 by December 31, 2014. *Id.* at 8. Third, Midwest Generation seeks relief from Condition 1(a) of the Waukegan Order. *Id.* at 1-2.

The condition requires Midwest Generation to meet, from December 31, 2013 until December 31, 2014, the system-wide SO₂ emissions rate set forth in Section 225.295(b). Waukegan Order, slip op. at 20.

The Illinois Environmental Protection Agency (Agency) is required by the Act to “make a recommendation to the Board as to the disposition of the petition.” 415 ILCS 5/37(a) (2010). In its recommendation, the Agency states that it “neither supports nor objects to” the Board granting Midwest Generation’s petition. Agency Rec. at 15. Based upon its investigation of the petition, however, the Agency concludes that “the emission reduction credits available as a result of [Midwest Generation’s] proposed mass emission limitations are quantifiable and creditable,” and that Midwest Generation’s showing of “a net environmental benefit in SO₂ emissions over the term of the variance is consistent with the method utilized in similar previous variance requests.” *Id.* at 8.

The Board received 4,221 timely public comments in favor of granting Midwest Generation’s variance petition, and 4,326 timely comments opposed. Most public comments were filed with the Board but some were made verbally at hearing. The Board appreciates the extraordinary participation of all non-parties to this proceeding, including State and local officials, individual citizens, and citizens groups.

For the reasons detailed in this opinion, the Board finds that Midwest Generation has proven that compliance with the CPS regulations at issue would impose an arbitrary or unreasonable hardship on the company. This record supports the finding that the requested variance from those regulations will cause no significant negative impact on the environment and, in fact, will result in an overall reduction in emissions of several pollutants, including SO₂. Further, the relief sought from the CPS is consistent with federal law and Illinois’ obligation to comply with the federal Clean Air Act’s regional haze requirements, as well as to attain and maintain compliance with the National Ambient Air Quality Standards (NAAQS).

The Board therefore grants Midwest Generation the requested variance from Sections 225.295(b) and 225.296(a)(2) of the CPS (35 Ill. Adm. Code 225.295(b), 225.296(a)(2)), subject to the conditions set forth in the order following this opinion. Accordingly, Midwest Generation’s CPS Group is not subject to the average annual SO₂ emission rates of 0.28 pounds per million British thermal units (lb/mmBtu) in 2015 and 0.195 lb/mmBtu in 2016, set forth in 35 Ill. Adm. Code 225.295(b), until January 1, 2017, at which point the CPS emission rates of 35 Ill. Adm. Code 225.295(b) apply, beginning with 0.15 lb/mmBtu for 2017. Further, Midwest Generation is not subject to the requirement to install and have operational flue gas desulfurization (FGD) equipment on, or permanently shut down, Waukegan Unit 8 by December 31, 2014, set forth in Section 35 Ill. Adm. Code 225.296(a)(2), for a period of five months, *i.e.*, until May 31, 2015, at which point Waukegan Unit 8 must have FGD equipment installed and operational or be permanently shut down.

The conditions to which the variance is subject include a requirement to not operate the coal-fired boilers at the Crawford Station from the date of this order through December 31, 2014, which is when they are required to be permanently shut down. Also included are conditions limiting system-wide emissions of SO₂ to no more than 57,000 tons in 2013, 54,000 tons 2014,

39,000 tons in 2015, and 37,000 tons in 2016. For the purposes of this variance, “system-wide” entails the following coal-fired units: Joliet Units 6, 7, and 8; Powerton Units 5 and 6; Waukegan Units 7 and 8; and Will County Units 3 and 4.

The Board denies as unnecessary Midwest Generation’s request for relief from Condition 1(a) of the Waukegan Order. Condition 1(a) only requires compliance with Section 225.295(b) during the one-year variance period of the Waukegan Order, *i.e.*, from December 31, 2013 through December 31, 2014. Midwest Generation has no need to be relieved of the Condition 1(a) requirement because the company proposes here in PCB 13-24 to comply with Section 225.295(b) in 2013 and 2014.

In this opinion, the Board first provides the procedural history of this case (pp. 3-4), followed by the legal framework for variances under the Act (pp. 4-5). The Board then gives background on the CPS (pp. 5-7), after which the Board discusses Midwest Generation’s variance request (pp. 7-40) and the Agency’s recommendation (pp. 40-43), setting forth the relevant hearing testimony and documentary evidence. Next, the Board describes the verbal public comment received at hearing (pp. 43-47), as well as the written public comments filed with the Board (pp. 47-56). The Board then addresses the issues and applies the legal standards in making its findings and rulings on the variance request and the conditions of the granted relief (pp. 57-80). After the Board’s conclusion to this opinion, which sets forth the Board’s ultimate decision (pp. 80-81), the Board issues its order specifying the terms and conditions of the variance (pp. 81-85).

PROCEDURAL HISTORY

On November 30, 2012, Midwest Generation filed its petition for variance. Attached to the petition are nine exhibits (Pet. Exh.). On December 12, 2012, Midwest Generation filed a waiver to April 4, 2013, of the statutory 120-day deadline for the Board to decide this case (415 ILCS 5/38(a) (2010)).

Midwest Generation’s coal-fired power plants at issue are located in four counties: Cook; Lake; Tazewell; and Will. On December 13, 2012, the Agency filed its certification that notice of the variance petition was published the *Joliet Herald News* on December 12, 2012; the *Peoria Journal Star* on December 11, 2012; the *Waukegan News-Sun* on December 12, 2012; and the *Lawndale News/Westside Times* on December 13, 2012. *See* 415 ILCS 5/37(a) (2010); 35 Ill. Adm. Code 104.214(a). The Agency also mailed, on December 11, 2012, notice of the variance petition to each County State’s Attorney and County Board Chairman for the county in which a facility is located; each member of the General Assembly from the legislative district in which a facility is located; and any person in a county in which a facility is located who has in writing requested notice of variance petitions. *See* 415 ILCS 5/37(a) (2010); 35 Ill. Adm. Code 104.214(b).

On January 10, 2013, the Agency filed its recommendation (Agency Rec.) on the variance petition. Within 14 days after service of an Agency recommendation, the variance petitioner may file a response to the Agency recommendation or an amended petition. *See* 35 Ill. Adm. Code 104.220. Midwest Generation made no such filing.

Midwest Generation requested that the Board hold a public hearing on the variance petition. Pet. at 54. In advance of the hearing, the Board's hearing officer, Bradley Halloran, issued two sets of questions to Midwest Generation. The hearing officer issued the first set of questions on December 24, 2012. Midwest Generation filed its response to the questions on January 18, 2013 (Resp.), along with a motion for extension of time to file a supplemental response to the questions. On January 24, 2013, the hearing officer denied Midwest Generation's motion for extension of time. The second set of questions was issued by the hearing officer on January 25, 2013, and Midwest Generation was directed to respond to these questions at hearing.

The Board held the public hearing on January 29, 2013, in Joliet, Will County. The hearing transcript (Tr.) was received by the Board on February 8, 2013. Midwest Generation presented four witnesses at hearing: (1) Doug McFarlan, President of Midwest Generation and Senior Vice President of Public Affairs of Edison Mission Energy, LLC (EME), Midwest Generation's Parent Company; (2) William Petmecky, Vice President and Treasurer of EME; (3) Fred McCluskey, Vice President of Technical Services for EME and Midwest Generation; and (4) Lucy Fraiser, PhD, Senior Consulting Toxicologist with AECOM. Midwest Generation offered 12 hearing exhibits (Hrg. Exh.), each of which was admitted into the record. The Agency offered no hearing exhibits but made a witness available to answer Board questions: Jim Ross, Manager of the Agency's Division of Air Pollution Control, Bureau of Air.

In addition to hearing testimony, the Board received 45 verbal public comments during the hearing. Midwest Generation filed a post-hearing brief (Post Br.) on February 19, 2013. Midwest Generation's post-hearing brief includes three exhibits (Post Br. Exh.). The Agency was given permission to but did not file a post-hearing brief. Midwest Generation filed a reply brief on March 4, 2013 (Reply Br.).

In addition to the verbal public comments received at hearing, 8,502 written public comments (PC) were timely filed with the Board. Some public comments were signed by more than one individual. *See, e.g.*, PC 5752 (signed by 44 individuals). One comment was submitted to the Agency and attached to the Agency's recommendation. The deadline for filing public comments was February 18, 2013. The Board received an additional 22 public comments following the deadline.¹ The Board has received no objection to the late-filing of these comments, which the Board allows in the interests of having a complete record.

LEGAL FRAMEWORK

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

¹ Public comments 8,506 through 8,527 consist of 939 individual letters. In the interests of administrative economy, the Clerk's Office batched a number of late-filed public comments, assigning one number to each group of comments.

immediate compliance with a Board regulation would impose an “arbitrary or unreasonable hardship” on petitioner. 415 ILCS 5/35(a) (2010). 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) (2010); *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, including the federal Clean Air Act and its regulations. *See* 415 ILCS 5/35 (2010). 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), (b) (2010).

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 ON THE COMBINED POLLUTANT STANDARD

On December 21, 2006, the Board adopted Proposed New 35 Ill. Adm. Code 225 Control of Emissions from Large Combustion Sources, R06-25 (Mercury Rule). Pet. at 20. The Mercury Rule consists of (1) some provisions within Subpart A of Part 225 and (2) all of Subpart B of Part 225. *Id.* On May 22, 2006, the Agency submitted a proposed rulemaking to the Board titled Proposed New CAIR SO₂, CAIR NO_x Annual and CAIR NO_x Ozone Season Trading Programs, 35 Ill. Adm. Code 225, Control of Emissions from Large Combustion Sources, Subparts A, C, D, and E, R06-26 (CAIR Rulemaking). Pet. at 20. “CAIR” refers to the “Clean Air Interstate Rule” and “NO_x” refers to “nitrogen oxides,” including nitrous acid, nitric acid, and nitrogen dioxide.²

On January 5 and 10, 2007, the Agency and Midwest Generation filed joint comments in the CAIR Rulemaking, proposing rules “for control of mercury and certain other emissions” as a new Subpart F to Part 225. Pet. at 20. The Board proceeded through first and second notice, proposing the addition of Subpart F, referred to as the CPS rules. *Id.* at 20-21. The CPS rules became effective on August 31, 2007. *Id.* at 21. The Board subsequently moved the CPS from Subpart F of Part 225 to Subpart B of Part 225, Sections 225.291 through 225.299. *Id.*; *see Amendments to 35 Ill. Adm. Code 225: Control of Emissions from Large Combustion Sources (Mercury Monitoring)*, R09-10 (June 18, 2009).

² <http://www.epa.gov/oar/nitrogenoxides/>

The CPS provides “an alternative to compliance with the emissions standards of Section 225.230(a)” through which:

the owner or operator of specified EGUs in the CPS located at Fisk, Crawford, Joliet, Powerton, Waukegan, and Will County power plants may elect for all of those EGUs as a group to demonstrate compliance pursuant to the CPS, which establishes control requirements and emissions standards for NO_x, [particulate matter (PM)], SO₂, and mercury. 35 Ill. Adm. Code 225.292(a).

A “specified EGU” is a “coal-fired EGU listed in Appendix A, irrespective of any subsequent changes in ownership of the EGU or power plant, the operator, unit designation, or name of unit.” 35 Ill. Adm. Code 225.292(b). “Such EGUs are referred to as a Combined Pollutant Standard (CPS) group.” 35 Ill. Adm. Code 225.292(d).

Midwest Generation elected to become subject to the CPS on December 27, 2007, pursuant to Section 225.292, and identified the following coal-fired EGUs to be the company’s CPS Group: Joliet Units 6, 7 and 8; Powerton Units 5 and 6; Waukegan Units 6, 7, and 8; Will County Units 1, 2, 3, and 4; Fisk Unit 19; and Crawford Units 7 and 8. Pet. at 21; 35 Ill. Adm. Code 225. Appendix A.

In the Waukegan Order, the Board observed that “Midwest Generation committed to reducing emissions earlier than required at two other facilities [Crawford and Fisk] by permanently shutting down the facilities.” Waukegan Order, slip op. at 20. Midwest Generation ceased operating Crawford Units 7 and 8 by the end of August 2012 (Pet. at 12), though the Waukegan Order does not require that the two Crawford Units be permanently shut down until the end of 2014 (Waukegan Order, slip op. at 20-21). Fisk Unit 19 was shut down at the end of August 2012 (Pet. at 9), though the Waukegan Order did not require permanent shutdown until the end of 2012 (Waukegan Order, slip op. at 20-21). Waukegan Unit 6 was permanently shut down by December 31, 2007. Pet at 14; *see also* 35 Ill. Adm. Code 225.297(a)(1) (requiring that EGU to permanently shut down by that date). In December 2010, Will County Units 1 and 2 were permanently shut down. Pet at 15; *see also* 35 Ill. Adm. Code 225.297(a)(2) (requiring those two EGUs to permanently shut down by December 31, 2010).

On June 24, 2011, the Agency submitted portions of the CPS, including 35 Ill. Adm. Code 225.295(b), 225.296(a)(2), to the United States Environmental Protection Agency (USEPA) for inclusion in the Illinois State Implementation Plan (SIP) addressing regional haze. *See* 77 Fed. Reg. 3966 (Jan. 26, 2012); Pet. at 50; Pet. Exh. 6, 7. Illinois’ regional haze plan includes calculations for the federal Best Available Retrofit Technology (BART). USEPA approved Illinois’ SIP submittal, including Sections 225.295(b) and 225.296(a)(2), effective August 6, 2012. *See* 77 Fed. Reg. 39943 (July 6, 2012); Pet. Exh. 8. USEPA stated:

In the notice of proposed rulemaking, [US]EPA proposed to conclude that the emission reductions from the [Multi-Pollutant Standards (MPS)] and the [CPS] would be greater than the reductions that would occur with unit-specific implementation of BART on the subset of these sources that meet the criteria for being subject to BART. Therefore, [US]EPA proposed to find that the [MPS] and

Bankruptcy

On December 17, 2012, EME and certain of its subsidiaries, including Midwest Generation, filed voluntary petitions for relief under Chapter 11 of the Bankruptcy Code in the United States Bankruptcy Court for the Northern District of Illinois. Post Br. at 33; PC 3 at 1. The Chapter 11 cases are pending before the Honorable Jacqueline P. Cox, United States Bankruptcy Judge, and are being jointly administered under the lead case, *In re Edison Mission Energy*, Case No. 12-49212 (PJC). PC 3 at 1. Section 362(a) of the Bankruptcy Code (11 U.S.C. § 362(a)) states that a debtor's filing of a voluntary petition acts as a stay, applicable to all entities, of certain judicial, administrative, or other actions or proceedings against the debtor. *Id.* at 2. Midwest Generation's variance petition, however, is not an action against Midwest Generation and therefore is not subject to a stay under Section 362(a) of the Bankruptcy Code. *Id.*; see also Post Br. at 35. Chapter 11 of the U.S. Bankruptcy Code "contemplates that the party filing for bankruptcy will continue to operate through and after the bankruptcy process." Pet. at 39.

Midwest Generation asserts that the bankruptcy filing "was a measure of last resort" driven by current financial circumstances. Post Br. at 34. The company contends that the bankruptcy was not a self-inflicted hardship, but was caused by "changes in market conditions, such as energy prices, and other external drivers." *Id.* Midwest Generation maintains that the bankruptcy filing underscores the reason for the variance request, and argues that waiting for the bankruptcy proceeding to end would not provide the variance relief the company seeks. *Id.* at 35. Midwest Generation states that waiting for completion of the bankruptcy proceeding will not provide it with the funding required by April 2013 to move forward with construction of controls to comply with 2015 and 2016 SO₂ rates "without substantial curtailment." *Id.* Similarly, the bankruptcy proceeding does not "address the challenges posed by the current, overlapping outages scheduled for installation of controls on Waukegan Unit 7 and Unit 8." *Id.* at 36.

Facilities

As of 2013, Midwest Generation states that it will or could legally generate electricity from coal-fired units at five electric generating stations in Illinois, all of which are subject to the CPS. Pet. at 11. These stations are (1) the Crawford Generating Station in Cook County, (2) the Joliet Generating Station in Will County, (3) the Powerton Generating Station in Tazewell County, (4) the Waukegan Generating Station in Lake County, and (5) the Will County Generating Station in Will County. *Id.* A sixth electric generating station, Fisk Station in Cook County, formed a part of Midwest Generation's CPS Group, consisting of Fisk Unit 19 (Unit 19 Boiler BLR19). See 35 Ill. Adm. Code 225.Appendix A. However, Fisk Unit 19 was permanently shut down by the end of August 2012. Pet. at 9. It was required to be permanently shut down by December 31, 2012. See Waukegan Order, slip op. at 19-20.

The Crawford Station is located at 3501 South Pulaski Road in Chicago and contains two coal-fired EGUs: Crawford Unit 7 (Unit 7 Boiler BLR1); and Crawford Unit 8 (Unit 8 Boiler BLR2). Pet. at 12; 35 Ill. Adm. Code 225.Appendix A. The Waukegan Order requires Midwest Generation to permanently shut down these coal-fired units at the Crawford Station by December 31, 2014, but the company ceased operating the units by the end of August 2012. Pet. at 12. The

Crawford Station employed approximately 108 people. *Id.* Midwest Generation states that it maintains the permits issued to the Crawford Station and could legally generate electricity from those coal-fired units through the end of 2014. *Id.*

The Joliet Station is located at 1800 Channahon Road in Joliet and employs 253 people. Pet. at 12-13. The Joliet Station operates three coal-fired EGUs: Joliet Unit 6 (Unit 6 Boiler BLR5); Joliet Unit 7 (Unit 7 Boiler BLR71, Unit 7 Boiler BLR72); and Joliet Unit 8 (Unit 8 Boiler BLR81, Unit 8 Boiler BLR82). See 35 Ill. Adm. Code 225.Appendix A. The Powerton Station is located at 13082 East Manito Road in Pekin and employs approximately 181 people. Pet. at 13. The Powerton Station operates two coal-fired EGUs: Powerton Unit 5 (Unit 5 Boiler BLR 51, Unit 5 Boiler BLR 52); and Powerton Unit 6 (Unit 6 Boiler BLR 61, Unit 6 Boiler BLR 62). See 35 Ill. Adm. Code 225.Appendix A.

The Waukegan Station is located at 401 East Greenwood Avenue in Waukegan and employs approximately 149 people. Pet. at 14. Midwest Generation operates two coal-fired EGUs at the Waukegan Station: Waukegan Unit 7 (Unit 7 Boiler BLR7); and Waukegan Unit 8 (Unit 8 Boiler BLR8). *Id.*; 35 Ill. Adm. Code 225.Appendix A. Waukegan Unit 6 (Unit 6 Boiler BLR17) has been permanently shut down. Pet. at 14; 35 Ill. Adm. Code 225.297(a)(1), 225.Appendix A. The Will County Station is located at 529 East 135th Road in Romeoville and employs approximately 156 people. Pet. at 14-15. The Will County Station operates two coal-fired EGUs: Will County Unit 3 (Unit 3 Boiler BLR3); and Will County Unit 4 (Unit 4 Boiler BLR4). Will County Unit 1 (Unit 1 Boiler BLR1) and Will County Unit 2 (Unit 2 Boiler BLR2) have been permanently shut down. Pet. at 15; 35 Ill. Adm. Code 225.297(a)(2), 225.Appendix A.

Midwest Generation states that each of its generating stations is a major source subject to the Clean Air Act Permitting Program (CAAPP), and that the Agency has issued a number of operating and construction permits relative to air pollution control. Pet. at 16. Midwest Generation states that if the Board grants the requested relief, Midwest Generation will seek extensions of construction permits from the Agency. *Id.*

Relief Requested

Midwest Generation seeks variance relief from the system-wide SO₂ emission rates of Section 225.295(b) (35 Ill. Adm. Code 225.295(b)) for the two-year period of 2015 and 2016. Pet. at 1, 52; Post Br. at 6. This relief would apply to the company's nine operating EGUs: Joliet Units 6, 7, and 8; Powerton Units 5 and 6; Waukegan Units 7 and 8; and Will County Units 3 and 4. Specifically, Midwest Generation seeks variance relief from "the CPS requirements [35 Ill. Adm. Code 225.295(b)] that it comply with the system-wide SO₂ annual emissions standards of 0.28 lb/mmBtu and 0.195 lb/mmBtu in 2015 and 2016, respectively." Pet. at 22. Midwest Generation instead proposes that it comply with a system-wide average annual SO₂ emission rate of 0.38 lb/mmBtu during each of those two years. *Id.*; Post Br. at 6.

Midwest Generation also seeks variance relief from Section 225.296(a)(2) (35 Ill. Adm. Code 225.296(a)(2)) for a period of five months, delaying that requirement until May 31, 2015. Pet. at 1, 6, 23; Post Br. at 7. Section 225.296(a)(2) currently requires Midwest Generation to

install FGD equipment at, or to permanently shut down, Waukegan Unit 8 by December 31, 2014. Pet. at 8. Midwest Generation requests this relief due to its current financial situation and the need to coordinate outages, and in turn commits to not operating Waukegan Unit 8 after December 31, 2014, until installation of the FGD equipment is complete. *Id.*

Midwest Generation describes its relief request as “a brief pause” in (1) the pace of the decline in system-wide SO₂ emission rates for 2015 and 2016 and (2) the requirement to install FGD equipment on Waukegan Unit 8 by December 31, 2014. Pet. at 23. In turn, Midwest Generation commits to (1) not operating the Crawford coal-fired units in 2013 and 2014 and (2) emitting no more than 57,000 tons of SO₂ in 2013 and no more than 54,000 tons of SO₂ in 2014. Pet. at 22; Post Br. at 6. Midwest Generation further commits to achieving mass SO₂ emission levels no greater than 39,000 tons in 2015 and 37,000 tons in 2016. *Id.* Midwest Generation contends that these commitments “would yield early SO₂ emission reductions and cumulative net reductions in mass SO₂ emissions of 3,181 tons through the end of the four-year (2013-2016) period,” noting that emissions of other pollutants would be significantly reduced during this period as well. *Id.* at 22-23, *citing* Pet. Exh 5 (Mr. McCluskey’s Affidavit). Midwest Generation proposes to comply with the CPS system-wide average annual SO₂ emission rate of 0.15 lb/mmBtu in 2017, as set forth in Section 225.295(b). Pet. at 23; *see* 35 Ill. Adm. Code 225.295(b).

Mr. McFarlane, President of Midwest Generation and Senior Vice President of Public Affairs of EME, testified that Midwest Generation’s variance request is based on five principles that are intended to maintain the spirit and intent of the CPS. First, Midwest Generation would continue to invest in design, planning, and installation of pollution control equipment every year through 2019. Second, the variance does not seek to extend the CPS implementation timeline. Third, by seeking relief only during 2015 and 2016, the variance will not pose any hindrance to the State in demonstrating attainment of the NAAQS for SO₂, particulate matter, and ozone. Fourth, the requested relief results in a “net environmental benefit” based on the actual emissions for years 2013 through 2016. Fifth, the requested variance provides additional safeguards by limiting the actual tons of SO₂ emissions each year from 2013 through 2016, in addition to alternative SO₂ emission rates. Tr. at 23, 26-29.

Additionally, Midwest Generation seeks variance relief from the Waukegan Order, so as to be, in the company’s view, consistent with the relief requested from Section 225.295(b). Pet. at 23. Specifically, Midwest Generation asks for relief from Condition 1(a) of the Waukegan Order:

at page 20, where the Board ordered Midwest Generation to comply with the system-wide emission rates for sulfur dioxide (SO₂), or, in the alternative, Midwest Generation requests that the Board adjust that portion of the Waukegan Order to be consistent with the relief requested herein or specifically find that the variance requested here supersedes only that provision of the Waukegan Order that requires compliance with the system-wide SO₂ emission rate but not the provisions regarding the retrofit of the hot-side precipitator and the installation of the flue gas desulfurization equipment or the shutdown deadline as applicable to Waukegan Unit 7. *Id.* at 1-2.

Midwest Generation maintains that it “seeks the least obtrusive path it possibly can” through the requested variance provisions and proposes to maintain the original schedule for completing “the significant step-down” in its fleet-wide SO₂ emission rates in 2017 and thereafter. Pet. at 26.

Arbitrary or Unreasonable Hardship

Midwest Generation claims that the economic and market circumstances surrounding its request for variance could not have been foreseen when the CPS was negotiated with the Agency in 2006 and adopted by the Board in 2007. Pet. at 29; Tr. at 23-24, 55-56. These circumstances include “significant recent deterioration in Midwest Generation’s cash flow,” caused by an unexpected and significant decline in energy prices and capacity markets. Pet. at 29; Tr. at 56. Midwest Generation states that these circumstances are exacerbated by higher delivered coal costs and an “uneven playing field” created by the imposition of stringent Illinois requirements coupled with the deferral of comparable federal requirements. Pet. at 29.

Midwest Generation is currently working through financial restructuring, which included Midwest Generation’s filing of a petition under Chapter 11 of the Bankruptcy Code. Pet. at 29; Post Br. at 33. William Petmecky, Vice President and Treasurer of EME, testified that in the past, funding for installation of emissions control came from either Midwest Generation’s operations or EME.³ Other possible funding sources have included EME’s parent, Edison International, and third party lenders. Tr. 52-53. Mr. Petmecky testified that none of these possible sources of funding are currently available.

Midwest Generation is unable to generate funds for the retrofits necessary for 2015 and 2016 because of expected operating losses in 2013 and 2014. Tr. at 53. According to Mr. Petmecky, because EME recently filed for bankruptcy, EME will not be in a position to address retrofit costs until resolving past debts and completing reorganization. Further, Edison International has stated that it will not invest in EME because Edison International plans to divest its equity in EME under the bankruptcy plan. Mr. Petmecky testified that raising funds from third party lenders will be very difficult until a plan to demonstrate the financial viability of Midwest Generation is put in place. Tr. at 54-55. If the variance is granted, however, Mr. Petmecky expects improvements in Midwest Generation’s operating revenues, and an ability to secure funding for additional controls to comply with the CPS. Tr. at 48, 57; *see also* Pet. at 29.

Midwest Generation asserts that it:

faces clear financial hardship as it continues to execute pollution control work based on the CPS, a hardship that it seeks to mitigate, not by undoing the CPS, but by obtaining modest relief to the SO₂ emission rate requirements for only two years and a modest extension of just five months to the deadline for completing retrofit work at Waukegan Unit 8. Pet. at 34

³ Mr. Petmecky is responsible for “treasury activities, including corporate and project financing, financial planning and analysis, cash management and treasury operations.” Tr. at 48.

Granting the requested variance would give Midwest Generation “a two-year pause to work through its financial constraints and operating revenue issues so that it can either borrow or otherwise generate the funds needed for CPS compliance.” *Id.* at 40. Midwest Generation maintains that denial of its request for variance would create an arbitrary and unreasonable hardship. *Id.* at 29. The company contends that, absent a variance, it “would likely be forced to substantially curtail operation from the fleet.” Post Br. at 8.

As discussed below, several public commenters suggest that the Board delay decision on the variance petition until the completion of the Chapter 11 financial restructuring. Mr. McFarlane testified, however, that the very reason Midwest Generation is seeking a variance is because of financial hardship. He maintained that the proposed variance is critical to Midwest Generation for developing a reorganization plan and new capital structure. Tr. at 32-33. Regarding this being Midwest Generation’s second variance request from the CPS in a year, Mr. McFarlane reiterated that this petition is a last resort to allow Midwest Generation the best opportunity to continue to reduce emissions and conclude a successful financial restructuring. Tr. at 34; *see also* Tr. at 57.

Uneven Playing Field and Regulatory Uncertainty

Midwest Generation argues that Illinois has adopted emission reduction requirements “significantly more stringent” than other states. Pet. at 29. Midwest Generation states that the mercury reduction requirements of the CPS continued to apply after vacatur of the federal Clean Air Mercury Rule (CAMR), and that the NO_x, SO₂, and PM reduction requirements of the CPS continue to apply in Illinois although they are not necessary for compliance with current NAAQS or other federal requirements. *Id.* at 30. Midwest Generation also states that the CPS and MPS curtail emissions trading otherwise allowed by CAIR. *Id.*

Midwest Generation further contends that Illinois’ deregulated energy market places Illinois facilities “at a competitive disadvantage” with facilities located in regulated states. Pet. at 31. Midwest Generation states part of the reason for this as due to Illinois’ deregulated electricity generators having to install controls generally not required in surrounding states and not being able to recover the costs of these additional controls through a regulated rate regime and consumer rates. *Id.* Unlike regulated states, according to Midwest Generation, Illinois electricity generators “are entirely dependent on wholesale prices in the competitive power price market for their revenue stream.” *Id.*

Midwest Generation argues that there is substantial uncertainty regarding future regulatory requirements that apply to all coal-fired power generators. Pet. at 32. This is in part due to CAMR being vacated, and the D.C. Circuit’s finding that CAIR is “fatally flawed.” *Id.* Midwest Generation states that, since the Board’s adoption of the Mercury Rule and CAIR, USEPA has promulgated two major rules: Cross-State Air Pollution Rule (CSAPR) and the Mercury and Air Toxics Standards (MATS). *Id.* at 31. CSAPR, which was adopted to replace CAIR, presented an entirely different allowance allocation methodology and an entirely new SO₂ allowance trading program, according to Midwest Generation. *Id.* at 32. CSAPR, continues Midwest Generation, includes “a number of features that are significantly more stringent than the

CAIR” and was vacated in its entirety on August 21, 2012, with the court ordering that CAIR remain the active transport control program while USEPA works on a program to replace it. *Id.* Midwest Generation states that USEPA and a number of appellants have since sought a rehearing *en banc* of the appellate panel’s decision. *Id.* at 33. Midwest Generation asserts the following:

[T]he regulatory ambiguity inherent in knowing that the current program, *i.e.*, the CAIR, is legally insufficient and not knowing what will replace it creates significant uncertainty for funding pollution control work, since sources of financing prefer certainty rather than the risk created by regulatory uncertainty. *Id.*

Midwest Generation contends that many of its competitors, who are not subject to the Illinois-specific CPS, are able to await certainty before making some of the capital decisions and expenditures that Midwest Generation has begun to make. *Id.*

Midwest Generation further states that the Mercury Rule, which contains the CPS, is a state rule that continues to require NO_x and SO₂ reductions when surrounding states are not subject to such limitations. Pet. at 34. Midwest Generation believes this places them at a competitive disadvantage in the power marketplace. *Id.*

Midwest Generation asserts that it complies with the mercury emission limitations applicable under the Illinois Mercury Rule and will also comply with the less-stringent mercury emissions limitations set forth in MATS. Pet. at 35. Midwest Generation maintains that it will comply with the MATS’ filterable PM emissions limitation with its improved electrostatic precipitators (ESPs). *Id.* Midwest Generation does not believe that a system-wide annual SO₂ emission rate of 0.38 lb/mmBtu in 2015 and 2016 will interfere with its ability to comply with the MATS’ hydrogen chloride (HCl) limit, asserting that Midwest Generation complies with this HCl limit. *Id.* Midwest Generation states that the MATS was appealed, and that the uncertainties inherent in the appeal, including what changes in the relevant requirements might arise as a result, make planning more difficult for Midwest Generation and “suggest the need for control plan flexibility.” *Id.*

Midwest Generation describes its current operational plans as follows:

[C]omply with the SO₂ emission rates contained in the CPS through the use of ultra-low sulfur coal and injection of the dry sorbent, Trona, and to ensure continuing compliance with PM emissions limits through improvements to the ESPs on each unit. Pet. at 35.

Midwest Generation contends that this control plan enables the company to remain compliant with the MATS and the CAIR. *Id.* Midwest Generation believes that “a two-year slowdown in the pace at which emission rate limits are ratcheted down” will allow it to gain some level of certainty and provide a reasonable timeframe for creating a more level competitive playing field. *Id.*; Post Br. at 10.

At hearing, Mr. McFarlane addressed the claims of Dynegey Midwest Generation, LLC and Dynegey Kendall Energy, LLC (collectively, Dynegey), discussed below, that granting this variance request would place Dynegey at a competitive disadvantage in the energy markets. Mr. McFarlane testified that Midwest Generation and Dynegey compete in different energy markets; *i.e.*, Midwest Generation competes in the PJM (Pennsylvania - New Jersey - Maryland) interconnection marketplace, stretching from northern Illinois to the east, while Dynegey competes in the Midwest interconnection system, stretching from central and southern Illinois to the west and north. Tr. at 31. As for Dynegey's claims about its timely compliance with its MPS requirements, Mr. McFarlane stated that Dynegey's MPS compliance resulted from a federal consent decree regardless of how Midwest Generation is regulated. Tr. at 32-33.

Unrecoverable Costs of Compliance and Midwest Generation's Current Financial Condition

Midwest Generation asserts that it has spent more than \$200 million in capital costs for CPS compliance and that it continues to incur significant operating costs on an ongoing basis.⁴ Tr. at 50, 61. These costs include equipping Midwest Generation's fleet of coal-fired units with controls adequate to comply with the CPS requirements for SO₂, mercury and NO_x, switching its fleet to ultra-low sulfur coal, and commencing Trona injection system installation work at Powerton Unit 6. *Id.*, *see also* Hrg. Exh. 5 at 2-6. Added to the capital expenditures identified above is the shutdown of several units. Waukegan Unit 6 and Will County Units 1 and 2 were permanently shut down to comply with the CPS; and three coal-fired units at the Fisk and Crawford Stations also ceased operation. Hrg. Exh. 5 at 3; *see also* 35 Ill. Adm. Code 225.297(a); Waukegan Order, slip op. at 20-21. Midwest Generation asserts that since December 2007 when Midwest Generation opted into the CPS, the company has achieved compliance with CPS rate requirements for NO_x, and has "achieved compliance" with mercury and SO₂ rates "more quickly than required by the CPS." Hrg. Exh. 5 at 2-3.

To comply with the CPS NO_x rate of 0.11 lb/mmBtu, Midwest Generation spent over \$100 million to install selective non-catalytic reduction equipment (SNCR) at most of its units, including Crawford before operations ceased there. To further reduce NO_x emissions, Midwest Generation also incurred expenses to optimize combustion at all of its coal-fired units. Hrg. Exh. 5 at 2-3.

To comply with the CPS mercury rate of 0.0080 lb/Gwh, Midwest Generation installed Activated Carbon Injection (ACI) on all of its coal-fired units and opted all of its units except two into the CPS in 2012, more than two years before required: Joliet Units 6, 7 and 8; Powerton Units 5 and 6; Waukegan Unit 8 and Will County Unit 4. Hrg. Exh. 2-4. Midwest Generation asserted that Waukegan Unit 7 and Will County Unit 3, which have hot-side ESPs, are currently meeting the CPS mercury rate, as well as the rate under the federal MATS, both of which do not take effect until 2015. Hrg. Exh. 5 at 4.

⁴ In the petition, Midwest Generation stated \$170 million, but later revised this figure to \$200 million. Pet. at 36; Tr. at 61.

To comply with the CPS SO₂ rates, Midwest Generation selected a combination of ultra-low sulfur coal and Trona injection FGD. Midwest Generation estimated the capital cost of the FGD equipment at an average of \$38 million per unit. To this, Midwest Generation adds the costs associated with operating the Trona FGD and procuring ultra-low sulfur coal. Hrg. Exh. 5 at 6.

To comply with the CPS SO₂ rates, Midwest Generation plans to invest in PM controls to avoid increases in PM emissions resulting from new SO₂ controls. To control PM, Midwest Generation plans to couple the Trona FGD installations with associated ESP upgrades at an average cost of \$55 million per unit. Hrg. Exh. 5 at 6. In addition, Midwest Generation is required to convert the hot-side ESPs to cold-side ESPs on Waukegan Unit 7 and Will County Unit 3 to control PM by December 31, 2012 and December 31, 2015, respectively. Hrg. Exh. 5 at 4; *see also* Waukegan Order. Midwest Generation has begun engineering work for these hot-to-cold conversions. Hrg. Exh. 5 at 4.

To satisfy the CPS FGD equipment requirements for Waukegan Units 7 and 8 (35 Ill. Adm. Code 225.296(a)(1) and (a)(2)) and meet the 2015 and 2016 SO₂ system-wide rates (35 Ill. Adm. Code 225.295(b)), Mr. McCluskey estimated that Midwest Generation would need to spend \$440 million from 2013 through 2014. Hrg. Exh. 5 at 7; Tr. at 50 (Mr. Petmecky: “about a half a billion dollars”). From 2015 through 2018, according to Mr. McCluskey, Midwest Generation would need to spend hundreds of millions of dollars more to install controls on its remaining units to attain the declining CPS annual SO₂ rates in the later years. Hrg. Exh. 5 at 7. Mr. McCluskey estimated overall costs for CPS compliance at roughly \$800 million. Tr. at 81; Tr. at 50 (Mr. Petmecky: “total cost of complying with CPS is forecast to be just over \$1 billion dollars”).

Midwest Generation further plans to install a Trona injection system and to convert the ESP from a hot-side to a cold-side precipitator at Waukegan Unit 7. Pet. at 36. Midwest Generation quotes its 2013 and 2014 costs to be around \$230 million (of the \$440 million noted above) to meet *2013 and 2014* CPS requirements. *Id.*; Tr. at 50. These costs include the Trona and ESP work, as well as continued engineering and procurement of long lead material associated with controls for other units. Pet. at 36. Midwest Generation states that an additional \$210 million (of the \$440 million noted above) in 2013 and 2014 capital expenditures are necessary to comply with the *2015 and 2016* CPS SO₂ system-wide emission rates and the installation of FGD equipment at Waukegan Unit 8. Pet. at 37; Tr. at 50. Mr. Petmecky testified that the cost of complying with CPS emission rates for 2015 and 2016 are at issue in the requested variance because Midwest Generation needs to have funding for installation of those emissions control no later than April 2013. Tr. at 51.

Midwest Generation contends that, without the requested relief, the company, its stations, its employees, and others that rely on the stations, as well as compliance investments to date, are at risk. Pet. at 37. Midwest Generation asserts that it currently faces significant financial challenges relating to constriction of revenues, increased costs, and debt at its indirect parent, EME. *Id.*; Exh. 4.

Midwest Generation states that market energy prices between 2008 and 2012 have declined by roughly 45%, which has driven down Midwest Generation's revenues. Pet. at 37; Tr. at 56. The company claims that this results in part from weak demand and unprecedented exploration and production of shale gas that has caused steep reductions in the price of natural gas. Pet. at 37. According to Midwest Generation, these lower energy prices have also caused a decrease in Midwest Generation's energy generation, further reducing the company's revenues. *Id.* Midwest Generation claims to have also experienced lower capacity prices and revenues. *Id.* Midwest Generation contends that these capacity prices and anticipated revenue "will fall to strikingly low levels in 2013." *Id.* Midwest Generation expects capacity revenues in 2013 to decline by more than 85% from the 2010 and 2011 revenues. *Id.* at 38. However, Midwest Generation expects capacity revenues to increase in 2014 and 2015, based on increasing capacity prices in those years. *Id.*

Midwest Generation also asserts that it has experienced a recent substantial increase in fuel costs. Pet. at 38. According to Midwest Generation, this is because a favorable long-term coal rail contract expired in 2012, with the new, higher-priced contract resulting in as-delivered fuel costs being approximately 60% higher than in 2008. *Id.*; Tr. at 56. The constriction of revenues and increased costs, continues the company, has resulted in Midwest Generation "entering a period of negative earnings," which has affected Midwest Generation's ability to secure financing. Pet. at 38. Midwest Generation expects operating losses and deficits to continue through 2014. *Id.*

Midwest Generation claims that it has been largely dependent on EME to fund its cash flow deficits and environmental retrofits. Pet. at 39. Midwest Generation contends, however, that EME is facing its own financial challenges that create doubt regarding EME's ability to provide funding to Midwest Generation to install additional controls required to comply with the CPS system-wide rates in 2015 and 2016. *Id.* Midwest Generation had \$1.323 billion of notes receivable from EME as of September 2012. *Id.* at 40. At the time of its petition, Midwest Generation stated that it may need to file for protection under Chapter 11 of the U.S. Bankruptcy Code if it is unable to obtain financial support from EME. *Id.* Midwest Generation's petition states that it and EME have been engaged in negotiations with creditors concerning potential financial restructuring. *Id.* Midwest Generation subsequently filed for bankruptcy as a subsidiary of EME on December 17, 2012. Post Br. at 2.

Midwest Generation states that it "has been unable, to date, to identify any other sources of funding for the roughly \$210 million needed in 2013 and 2014 to install additional controls required to achieve the 2015 and 2016 CPS system-wide emission rates." Pet. at 40. The \$210 million would cover work associated with the installation of Trona FGD equipment and ESP upgrades on Waukegan Unit 8, Powerton Unit 5, and Joliet Unit 7 or 8. Without the variance, Midwest Generation would need to begin this work and incur related expenses no later than April 2013 because of necessary lead times. The petition therefore stresses that granting the variance by April 2013 is critically important to Midwest Generation. Pet. Exh. 5 at 8.

Midwest Generation claims that Edison International has publicly stated that it will not invest new funds in Midwest Generation given the challenging market conditions. Further, neither Midwest Generation nor EME has "a reasonable likelihood of securing financing for

these additional control costs from an unrelated third party in time to comply with the current CPS schedule.” Pet. at 40-41.

Midwest Generation contends that, absent the variance, it would be forced to curtail operations at uncontrolled units. Midwest Generation estimates that it would need to curtail operations by roughly 35% in 2015 and 75% in 2016 from the average generation of its uncontrolled units over the past five years. Tr. at 67. Midwest Generation claims that such levels of operation would not be sustainable, substantially reducing revenues that could lead to temporary or permanent shutdowns of some units and possibly resulting in penalties under its capacity contracts. Hrg. Exh. 5 at 10; Tr. at 68. Midwest Generation cautions:

The cumulative impact of the curtailments could threaten the continued existence of Midwest Generation and the future viability of its stations. Shutting Midwest Generation’s plants would have devastating impacts on hundreds of workers and their families, and would drain literally hundreds of millions of dollars from the economy. Hrg. Exh. 5 at 10.

Midwest Generation states that it is planning to spend \$230 million in 2013 and 2014 to install controls on Powerton Unit 6 and Waukegan Unit 7, along with engineering and procurement for controls on other units. Hrg. Exh. 5 at 8; Pet. at 3.

Midwest Generation states that these financial conditions were not anticipated at the time the CPS was adopted, claiming that similar constraints have been felt by other power generators such as Ameren and Exelon. Pet. at 41. Midwest Generation asserts that the changed financial circumstances have resulted in Midwest Generation needing to defer these additional control costs and that the company would suffer unreasonable and arbitrary hardship absent a variance from the CPS 2015 and 2016 rates, as well as the requirement to install FGD equipment on Waukegan unit 8 by the end of 2014. *Id.*

Adverse Consequences of Denial

Midwest Generation foresees two possible compliance scenarios in the event that its variance request is denied. Pet. at 42. First, the company believes requiring it to fund the additional \$210 million in necessary control costs at the same time that it expects to fund approximately \$230 million in other CPS control projects “could threaten Midwest Generation’s viability and that of its Stations.” *Id.* Second, Midwest Generation believes it would be forced “to substantially curtail its generation.” *Id.*; Post Br. at 8. Midwest Generation contends this curtailment would result in “substantial reduction in Midwest Generation’s revenues at a critical time and are not sustainable.” Pet. at 42. According to the company, these curtailments may further result in penalties under Midwest Generation’s capacity contracts and may require regulatory approval “in light of grid reliability concerns.” *Id.* Midwest Generation asserts that the level of generation curtailment required to comply with the CPS “would threaten the continued existence of Midwest Generation and the future viability of its Stations.” *Id.*; Post Br. at 9. This would in turn, according to the company, threaten Midwest Generation employees and others who rely on the operation of the Stations. Pet. at 43; Post Br. at 10.

Midwest Generation claims that, as of October 31, 2012, its plants and supporting operations employed 845 people, 64% of whom are represented by Local 15 of the International Brotherhood of Electrical Workers. Pet. at 43; Post Br. at 9. In 2011, continues Midwest Generation, the company provided annual payroll and benefits totaling \$145 million; paid over \$100 million for contracted labor to perform special project work; spent \$379 million to purchase goods and services from Illinois businesses, to pay for various licenses and regulatory fees, and to support Illinois-based organizations; and paid \$4.7 million in property taxes to local units of government in Will, Tazewell, Lake and Cook counties. *Id.*; Tr. 44.

Midwest Generation further contends that significant curtailment or the cessation of generation would adversely impact state tax revenues, noting that at the time of its petition filing it had paid over \$2.3 million in use tax on sorbent purchases. Pet. at 43. Midwest Generation therefore concludes that denial of the variance would result in dire consequences to the company, its employees, their communities, and the State generally. *Id.* at 44.

Midwest Generation maintains that “[d]enial of the variance would force additional major expenditures that may be impossible to fund or substantial curtailments that would threaten the survival of Midwest Generation.” Pet. at 49. According to Midwest Generation, “[s]hutting the Stations would have devastating impacts on hundreds of workers and their families and would drain hundreds of millions of dollars from the economy.” *Id.*

Midwest Generation states that in a variance proceeding, a petitioner must demonstrate that the hardship resulting from not granting the variance request would “outweigh any injury to the public or the environment” from granting the relief. Pet. at 48, *citing* Marathon Oil Co. v. IEPA, 242 Ill. App. 3d 200, 206, 610 N.E.2d 789, 793 (5th Dist. 1993). Midwest Generation asserts that its proposed compliance plan satisfies the environmental component of this showing in that it would result in approximately 15,000 tons of SO₂ less than anticipated under the CPS during the years 2013 through 2014 and 3,181 tons overall from 2013 through 2016. Pet. at 48. In addition, the proposed cap on mass emissions for SO₂ and the resulting reduction in the average annual heat input under the variance would also effectively reduce emissions of NO_x, PM, mercury, and carbon dioxide (CO₂) during the variance period. Pet at 49, Exh. 5 at 11.

Therefore, Midwest Generation argues that the hardship rises to the level of “arbitrary and unreasonable,” consistent with Section 35(a) of the Act and Board precedent in variance proceedings. Pet. at 49.

Compliance Plan

Compliance Efforts to Date

Fred McCluskey, Vice President of Technical Services for EME and Midwest Generation, testified at the hearing, summarizing Midwest Generation’s efforts to comply with the CPS since the CPS was adopted in 2007.⁵ Mr. McCluskey stated that all mercury control

⁵ Fred McCluskey is also as a member of EME’s executive management committee. Mr. McCluskey’s principal responsibilities include the oversight of all major capital project

systems have been completed and are operating in compliance with the CPS, and all but two EGUs are meeting the CPS mercury rate of 0.008 lb/gigawatt hour two years earlier than required. Tr. at 59. Mr. McCluskey also stated NO_x-related controls have been completed and are operating in accordance with the CPS. Tr. at 60. As for SO₂, Mr. McCluskey stated that Midwest Generation achieved the 2013 CPS emission rate of 0.44 lb/mmBtu two years earlier than required. Tr. at 60. Since opting into the CPS in 2007, Mr. McCluskey stated that Midwest Generation has reduced NO_x by 74%, mercury by roughly 84%, PM by roughly 23%, SO₂ by roughly 35%, and CO₂ by 20%. Tr. at 61; Hrg. Exh. 5 at 3. Mr. McCluskey testified that “[i]n short, we’ve met or exceeded all of our original commitments under the most difficult of circumstances.” Tr. at 60.

Mr. McCluskey stated that “[t]hose achievements have come at a considerable cost.” Tr. at 60. To date, Midwest Generation has spent more than \$200 million to install control equipment to ensure compliance with the CPS. Midwest Generation has also permanently shut down Waukegan Unit 6 and Will County Units 1 and 2. In addition, Midwest Generation accepted obligations under the variance for Waukegan Unit 7 in PCB 12-121 to shut down three coal-fired units at Fisk and Crawford Stations. Mr. McCluskey stated that “[t]he decision to shut down Fisk and Crawford was a difficult one and had a significant impact on many of the employees with us today [at the hearing].” Tr. at 61.

To comply with the CPS going forward, Mr. McCluskey outlined Midwest Generation’s compliance plan, which relies on the use of ultra-low sulfur coal (less than 0.55 lb sulfur/mmBtu) and Trona dry sorbent injection. Mr. McCluskey explained that the combination of ultra-low sulfur coal and Trona dry sorbent injection was the least expensive yet effective method for complying with the CPS SO₂ requirements, and would allow Midwest Generation to stagger capital investments over time. Tr. at 63.

With respect to whether the company’s proposed plan fails to provide assurance of timely compliance, Mr. McFarlane testified that even if Midwest Generation did not invest in control technology, the company would comply with the CPS either by curtailing generation or shutting down generating units. Tr. at 29. He emphasized that “[n]oncompliance is not an option or a strategy” in the compliance plan. Tr. at 30. Mr. McFarlane also acknowledged concerns that the Chapter 11 bankruptcy proceedings could hinder Midwest Generation’s ability to comply with the CPS or the variance. This issue, however, according to Mr. McFarlane, is addressed by designing the variance:

specifically to compl[e]ment our financial restructuring and support emergence from Chapter 11 by the end of 2014, as a company that is more stable and secure for long-term operations and growth. Tr. at 36; *see also* Tr. at 57.

management engineering and construction activities, such as installation of environmental controls for Midwest Generation and EME. Mr. McCluskey has worked in the electric industry for about 30 years, with experience in strategic planning, asset development, and carrying out large projects. Tr. at 58.

Installation of Trona Dry Sorbent Injection FGD

The CPS requires Midwest Generation to achieve average annual SO₂ emissions rates for the years 2013 through 2019, as well as install FGD equipment on specified EGUs or permanently shut down those units. *See* 35 Ill. Adm. Code 225.295(b), 225.296(a), (b), 225.Appendix A. In effect, the CPS requires the installation of FGD equipment at most of Midwest Generation's coal-fired units. Midwest Generation states that it:

extensively investigated available pollution control technologies to satisfy these requirements. Ultimately, Midwest Generation selected a program consisting of ultra-low sulfur coal and Trona injection for flue gas desulfurization at its units. Pet. Exh. 5 at 5; *see also* Pet at 15.

Midwest Generation explains that Trona is a mineral used in the production of sodium bicarbonate or baking soda. The dry sorbent injection system would inject Trona into the flue gas upstream of a PM control device, such as an ESP. The injected material neutralizes acidic gases, such as SO₂, forming a dry powder. The powder can then be removed by the PM control device. Pet. at 15. PM emissions from each of Midwest Generation's coal-fired boilers are controlled by an ESP. *Id.* Because the Trona injection systems increase the particulate loading to the ESPs, Midwest Generation found that upgrading the ESPs on the affected EGUs would also be necessary. *Id.* at 15-16; Resp. at 3. Overall, Midwest Generation determined that Trona injection systems are effective and provide a cost-effective means for complying with the system-wide SO₂ emission rates in the CPS. Resp. at 2-3.

In addition to the Trona systems, ESP upgrades, and ultra-low sulfur coal, Midwest Generation states that to reduce SO₂ emissions, the company plans to curtail generation and perhaps shut down one or more units. Post Br. at 20.

Midwest Generation outlines various construction activities that would be involved during the variance period. For the dry sorbent FGD installations, Midwest Generation explains that the Trona injection systems require bulk storage silos to hold the Trona sorbent, a metered system to convey and blow the sorbent through a mill, and injection lances to inject the sorbent into the flue gas duct work. Installation of the Trona injection systems would require various construction activities at the Stations, including constructing storage silos, mills, and injection ports. Pet. at 15.

For the ESP upgrades, Midwest Generation notes that work would vary from unit to unit, but in general, measures would include the following:

increasing the PM collection area, [increasing] the heights of the collection plates and the distance between the plates, installing high-frequency transformer rectifier sets, adding new fields of collection plates, redesigning air baffles and updating computer control systems. Hrg. Exh. 5 at 6.

Compliance Plan Schedule

Midwest Generation estimates that a typical installation of Trona FGD equipment and the associated ESP upgrades would take 18 to 24 months from preliminary engineering to start-up to performance testing of the completed systems. Of that time, preliminary engineering would account for about two to four months, lead times for major materials would be up to one year, and outages associated with the ESP upgrades would last 16 to 20 weeks. Hrg. Exh. 5 at 6; Tr. at 63-64, 73-74; Post Br. Exh. C. Mr. McCluskey explained that Midwest Generation is working on all of the FGD projects. Midwest Generation has selected common equipment and key vendors and come up with the underlying design for virtually all the units. Tr. at 78.

To comply with the CPS system-wide SO₂ emission rates for 2013 and 2014, Midwest Generation found that installation of the Trona injection system would be necessary at Powerton Unit 6, along with the use of ultra-low sulfur coal at other units. Midwest Generation states that it has obtained a construction permit and that installation and related ESP work at Powerton Unit 6 is underway. Completion of the ESP upgrades is expected by June 2013, and completion of the Trona FGD installation is expected around June 2014. Hrg. Exh. 5 at 7; Resp. at 3.

Then, to comply with the CPS system-wide SO₂ emission rates for 2015 and 2016, Midwest Generation determined that installation of Trona injection systems would likely be necessary at five of its other coal-fired units: Joliet Units 7 and 8; Waukegan Units 7 and 8; and Powerton Unit 5. Resp. at 3.

For Waukegan Unit 7, Midwest Generation plans to complete installation of a Trona injection system and conversion of the ESP from a hot-side to cold-side precipitator by December 2014, as required by the variance by the Waukegan Order. Midwest Generation asserts that the timing is subject to resolving any concerns PJM Interconnection, LLC has regarding electricity reliability related to the outage required to complete the work.⁶ Hrg. Exh. 5 at 7.

If the variance relief is granted with respect to the Waukegan Unit 8 FGD construction schedule deadline, Midwest Generation plans to complete Trona injection system installation and ESP upgrades by May 31, 2015. Currently, Section 225.296(a)(2) of the CPS (35 Ill. Adm. Code 225.296(a)(2)) requires by December 31, 2014, either the permanent shut down of Waukegan Unit 8 or the FGD equipment to be installed and operational on Waukegan Unit 8. Midwest Generation seeks relief from that date here to take advantage of the economies associated with working on both Waukegan Units 7 and 8 at the same time and because of the need to stagger the outages associated with the work. Resp. at 4.

By 2019, to comply with the annual CPS system-wide SO₂ emission rate and the requirement to install FGD equipment on specified EGUs or shut them down, Midwest Generation determined that all of its coal-fired operating units will require Trona systems, except

⁶ Midwest Generation states that “PJM Interconnection, LLC is the regional transmission system operator that must protect reliability of the grid and review the removal for any extended period of time any generating units within the scope of PJM’s authority and responsibility.” Pet. at 25.

Joliet Unit 6. Resp. at 3; *see* 35 Ill. Adm. Code 225.295(b), 225.296(a), (b). When asked through the December 24, 2012 hearing officer order to provide more specific information in the compliance plan, including types of equipment, a time schedule for implementing all phases of the compliance plan from initiation of design to program completion, and costs for each phase, Midwest Generation responded that unit-specific control details would constrain the flexibility inherent in the CPS. Resp. at 2, 8, 17. Midwest Generation states:

The CPS was designed to afford compliance flexibility for Midwest Generation with emphasis on protecting the public health by establishing system-wide emission rate limits and allowing the company to determine the type of technology and time of installations to achieve compliance.

That flexibility should be retained, particularly in the currently changing and dynamic power, labor, and equipment markets. Resp. at 5-6.

Midwest Generation goes on to state that the CPS does not set forth unit-specific requirements for the type of FGD equipment to control SO₂, but rather only that FGD equipment must be installed and operated or the unit shut down. Resp. at 5-6, *citing* 35 Ill. Adm. Code 225.296. Midwest Generation further states that the CPS only specifies that SO₂ emission rates be achieved on a system-wide basis, not how the emissions must be balanced among the units. Lastly, Midwest Generation states that the CPS does not specify the use of any particular coal or when permit applications must be submitted for equipment installation. Resp. at 5.

Midwest Generation argues that flexibility in the CPS can help the company address its on-going restructuring efforts in light of changes in the energy market and the markets for control equipment and laborers performing installations. Resp. at 6; Tr. at 64. Such markets directly impact decisions regarding what equipment will be installed at which units and when or whether some units will shut down instead. Resp. at 6. Just recently, for example, Midwest Generation found that converting the hot-side precipitator on Waukegan Unit 7 might now be economically feasible, which would enable the unit to continue to operate. Previously, the conversion was found likely to be uneconomical. *Id.* If the compliance plan were to contain unit-by-unit control requirements, Midwest Generation argues that it would interfere with the company's ability to adjust its plans in response to market changes and ensure the most cost-effective approach to compliance. *Id.* at 6-7.

Mr. McCluskey testified that Midwest Generation must balance compliance with available cash. Tr. at 76. Even given the provision under Section 104.212 (35 Ill. Adm. Code 104.212) to modify internal variance compliance dates, Mr. McCluskey stated that under the bankruptcy, Midwest Generation has significant limitations on information that can be provided regarding pending future investments. Tr. at 77-78.

As to the importance of flexibility, Mr. McCluskey recalled that when the CPS was adopted in 2007, Midwest Generation estimated compliance with the CPS overall would be close to \$3 billion. This estimate was based on significantly different technology at the time. Because of the flexibility in the CPS, Midwest Generation was able to manage its technology selections

since then to reduce capital exposure and change its plans, going from close to \$3 billion to roughly \$800 million for overall CPS compliance costs. Tr. at 81.

Instead of unit-by-unit control requirements, Midwest Generation suggests additional reporting requirements be included as conditions of the variance so that implementation of its proposed compliance plan could be tracked by the Agency. Resp. at 8. Midwest Generation also asserts that it should be able to “retain the ability to adopt alternate or emerging technologies in order to comply.” *Id.* at 6. Mr. McCluskey added that the company continues to work with technology providers to identify if something better comes along that would provide long-term opportunity and reduce capital exposure. Tr. at 70-71.

In its post-hearing brief, Midwest Generation proposed a revised compliance plan table, incorporating consideration of the Board’s questions posed in written and at hearing, as well as comments from the Agency. Post Br. at 15-16, 19. The revised compliance plan, presented under “Compliance Plan Activities” below, contains “core milestones for engineering, planning, permitting and construction of any FGD equipment that the company will rely upon to achieve the 2017 SO₂ emission rate.” *Id.* at 28. Also included are provisions for quarterly progress reports to the Agency, as well as meetings with the Agency if the Agency so requests. Midwest Generation states that the reports and meetings are intended to provide the Board with assurance that Midwest Generation is and will remain on track to comply with the 2017 CPS emission rate. *Id.* at 16. Mr. McCluskey stated that through the progress reports and emissions reports included under the variance conditions, the compliance plan would demonstrate progress. Tr. at 83. Midwest Generation asserts any further detail concerning scheduling is neither possible nor necessary for its compliance plan. Post Br. at 18-19.

Interim SO₂ Emission Rates

During the 2015 and 2016 variance period, Midwest Generation proposes an interim emission rate that would “step down” from the CPS rates of 0.44 lb/mmBtu in 2013 and 0.41 lb/mmBtu in 2014. The proposed variance rate is 0.38 lb/mmBtu in 2015 and 2016. In 2017, the CPS rate of 0.15 lb/mmBtu would apply, as required by 35 Ill. Adm. Code 225.295(b). Pet. at 12, 47. Midwest Generation states that “[t]his step down helps mitigate any impact from the variance request.” Pet. Exh. 5 at 11. Midwest Generation points out that the proposed rate of 0.38 lb/mmBtu in 2015 and 2016 is less than the CPS 2014 rate. Post Br. at 6. Midwest Generation states the interim emission rate can be achieved through the use of ultra-low sulfur coal and planned upgrades to emission controls at Powerton Unit 6 and Waukegan Unit 7. Pet. at 47.

The 2015 SO₂ reductions under the variance rate of 0.38 lb/mmBtu are less than what might be realized under the 2015 CPS rate of 0.28 lb/mmBtu. Midwest Generation notes, however, that the reductions are greater than the presumptive BART reductions. Pet. at 51. Midwest Generation presented a table comparing SO₂ reductions under presumptive BART, the CPS, and this proposed variance. Pet. at 51; Hrg. Exh. 9. The table includes information from the BART Technical Support Document (TSD) used by the Agency to develop the regional haze SIP. Pet. at 51.

TSD Table 4.7 lists Midwest Generation's 19 coal-fired EGUs located at six separate locations in Illinois, nine of which are subject to BART. Hrg. Exh. 6 at 30-32. Based on Table 4.7, the presumptive BART reductions in SO₂ emissions for the nine Midwest Generation EGUs is 31,440 tons per year. In comparison, the TSD predicted SO₂ emissions reductions under the CPS of 35,465 tons in 2015; 55,140 tons in 2017; and 61,194 tons in the final part of the CPS. Under Midwest Generation's analysis, the reductions based on the variance emission rate would result in SO₂ emissions reductions of 33,458 tons in 2015; 60,354 tons in 2017; and 65,032 tons in 2019. Hrg. Exh. 9.⁷

Additionally, Midwest Generation's analysis shows that because of Midwest Generation's proposed actions, the SO₂ emissions reductions expected for 2017 and 2019 would be greater than those anticipated by the Agency when it developed the regional haze SIP. Pet. at 51. Specifically, the predicted SO₂ emissions reductions under the CPS total 35,465 and 55,140 tons for 2017 and 2019, respectively, while the reductions Midwest Generation predicts total 60,354 and 65,032 tons for the same years. Hrg. Exh. 9.

SO₂ Emission Caps

In addition to proposing a variance emission rate that would continue the CPS step down, Midwest Generation commits to declining caps on annual SO₂ mass emissions. The caps would help achieve lower emissions over the 2013 through 2016 period than would be expected under the CPS based upon the 2008-2011 heat input. Pet. at 11. As part of its compliance plan, Midwest Generation agrees to meet annual system-wide caps on SO₂ mass emissions of 57,000 tons in 2013; 54,000 tons in 2014; 39,000 tons in 2015; and 37,000 tons in 2016. *Id.* 52-54; Post Br. Exhs. A, B. Midwest Generation states that because of its commitment to comply with mass emission levels of SO₂, "[i]n no year during the term of the variance would emissions increase over the previous year." Resp. at 13.

Compliance Plan Costs

For the Trona injection FGD equipment, Midwest Generation estimates the capital cost at an average of \$38 million per unit. Added to this are costs associated with operating the Trona FGD and procuring ultra-low sulfur coal. Pet. Exh. 5 at 6; Tr. at 64-65. For the ESP upgrades, Midwest Generation estimates an average cost of \$55 million per unit. *Id.*

Further breaking down the cost estimates, Midwest Generation estimates the following typical costs associated with its compliance plan on a *per unit* basis: \$2 to \$5 million for preliminary engineering and planning; \$20 to \$45 million for long lead fabrication; \$18 to \$45 million for construction; and \$17 to \$40 million for outage. Post Br. Exh. C.

⁷ Midwest Generation contends that, although the SO₂ emissions reductions under the variance in 2015 of 33,458 tons (with the emissions rate of 0.38 lb/mmBtu) would be less than those under the CPS for 2015 of 34,465 tons (with the emissions rate of 0.28 lb/mmBtu), the SO₂ emissions reductions are greater than the presumptive BART reductions of 31,440 tons per year. Pet. at 51; Hrg. Exh. 9.

Compliance Plan Activities

Midwest Generation presented a compliance plan table with dates and activities in its original petition. Pet. at 52-54. In its post-hearing brief, Midwest Generation proposes a revised compliance plan table, reflecting consideration of Board questions and Agency comments. Post Br. at 15-16, 19; Post Br. Exhs. A, B; Reply Br. at 1.

Midwest Generation states that the company:

has proposed to commit, in the enhanced compliance plan, to core milestones for engineering, planning, permitting and construction of any FGD equipment that the company will rely upon to achieve the 2017 SO₂ emission rate. Post Br. at 28.

Among Midwest Generation's proposed revisions is the company's agreement to provide quarterly progress reports to the Agency, as well as to meet with the Agency if so requested by the Agency. Midwest Generation states that the reports and meetings are intended to provide the Board with assurance that Midwest Generation is and will remain on track to comply with the 2017 CPS SO₂ emission rate. *Id.* at 16. Midwest Generation asserts that providing any further detail in its compliance plan is neither possible nor necessary. *Id.* at 18-19.

Midwest Generation's revised compliance plan is as follows:

| <u>Date</u> | <u>Activity</u> |
|--|--|
| 2013 - 2016 | Midwest Generation will not operate the coal-fired boilers at the Crawford Station. |
| January 1 - December 31, 2013 | Midwest Generation will limit system-wide ⁸ emissions of SO ₂ to no more than 57,000 tons. |
| By the end of each calendar quarter, beginning with the second quarter of 2013 and continuing through the fourth quarter of 2016 | Midwest Generation will submit a quarterly progress report to the Agency, and upon request, meet with the Agency to apprise the Agency of actions taken related to compliance with the variance, and in particular its progress toward compliance with the CPS annual average system-wide 2017 SO ₂ emission rate. In the first such quarterly report, Midwest Generation will discuss the compliance scenarios outlined in its post-hearing brief in support of its Petition for Variance, including in Exhibit C to that brief. |
| On or before December 31 of each year from | Midwest Generation will submit annual progress reports to the Agency generally describing the work completed that year (<i>i.e.</i> , the progress report due by December 31, 2013, |

⁸ Midwest Generation characterizes "system-wide" for the compliance plan to entail the following coal-fired units: Joliet Units 6, 7, and 8; Powerton Units 5 and 6; Waukegan Units 7 and 8; and Will County Units 3 and 4. Post Br. Exhs. A, B at 1.

| | |
|---|---|
| 2013 through 2016 | shall describe work completed in 2013) and progress made to comply with the timelines specified in the compliance plan. The annual progress report will also include a general description of the activities related to installation of the Trona systems and related PM control work Midwest Generation anticipates will be conducted the following year, including the status of the engineering for the projects and whether such projects have been included in the year's budgeting. |
| January 1 - December 31, 2014 | Midwest Generation will limit system-wide emissions of SO ₂ to no more than 54,000 tons. |
| On or before May 1, 2014 | Midwest Generation will report to the Agency its system-wide mass SO ₂ emissions for 2013 with its Annual Emissions Report. |
| On or before December 31, 2014 | Midwest Generation will inform the Agency of the compliance scenario, including any emission controls, that Midwest Generation will implement in order to achieve compliance with the CPS system-wide SO ₂ rate in 2017 (the "Compliance Scenario"), and will initiate any preliminary engineering and project planning for the installation of any such controls. |
| On or before January 1, 2015 | Midwest Generation will initiate preliminary engineering and project planning for the installation of all emission controls identified in its Compliance Scenario (as defined above). |
| January 1, 2015, and thereafter until completion of installation of FGD equipment | Midwest Generation will not operate Waukegan Unit 8. |
| 2015 - 2016 | Midwest Generation will comply with a system-wide annual average SO ₂ emission rate of 0.38 lb/mmBtu. |
| January 1 - December 31, 2015 | Midwest Generation will limit its system-wide mass emissions of SO ₂ to no more than 39,000 tons. |
| On or before March 31, 2015 | Midwest Generation will file permit applications, as necessary, for the installation of any emission controls identified in its Compliance Scenario (as defined above). |
| On or before May | Midwest Generation will report to the Agency its system- |

| | |
|--|---|
| 1, 2015 | wide mass SO ₂ emissions for 2014 with its Annual Emissions Report. |
| May 31, 2015 | Midwest Generation must have completed the installation of and have operational FGD equipment on Waukegan Unit 8 or permanently shut down the unit. |
| On or before December 31, 2015 | Midwest Generation will commence construction of all emission controls identified in its Compliance Scenario (as defined above). |
| On or before May 1, 2016 | Midwest Generation will report to the Agency its system-wide mass SO ₂ emissions for 2015 with its Annual Emissions Report. |
| January 1 - December 31, 2016 | Midwest Generation will limit its system-wide mass emissions of SO ₂ to no more than 37,000 tons. |
| On or before May 1, 2017 | Midwest Generation will report to the Agency its system-wide mass SO ₂ emissions for 2016 with its Annual Emissions Report. |
| 2017 | Midwest Generation will comply with the rate set forth in Section 225.295(b) for 2017 of 0.15 lb/mmBtu. |
| Continuously during the pendency of the variance | <ul style="list-style-type: none"> a. Midwest Generation will comply with the CAIR and any replacement rule for CAIR. b. Midwest Generation will comply with the Acid Rain Program at 40 CFR 72. c. Midwest Generation will comply with all other applicable requirements. d. Midwest Generation shall promptly provide the Agency with additional information related to the compliance plan upon request. |
| | Midwest Generation will notify the Agency if completion of the Trona system installations and associated PM controls necessary for compliance with the CPS becomes infeasible. |

Post Br. Exh. A.

Midwest Generation proposes January 1, 2017, as the deadline for returning to compliance with the CPS system-wide average annual SO₂ emission rates of 35 Ill. Adm. Code

225.295(b). However, Midwest Generation is willing to stagger dates if the Board believes that the CPS emission rates for 2015 and 2016 must be made applicable to the company for some period of time. If so, instead of immediate compliance with the CPS 2017 emission rate of 0.15 lb/mmBtu rate on January 1, 2017, Midwest Generation would comply with the emission rates of Section 225.295(b) on the following schedule:

| | |
|------------------------|---|
| Jan. 1 - 15, 2017 | 0.28 lb/mmBtu (<i>i.e.</i> , the CPS 2015 rate) |
| Jan. 16 - 31, 2017 | 0.195 lb/mmBtu (<i>i.e.</i> , the CPS 2016 rate) |
| Feb. 1 - Dec. 31, 2017 | 0.15 lb/mmBtu (<i>i.e.</i> , the CPS 2017 rate) |

Pet. at 53; Post Br. Exh. A at 3; Post Br. Exh. B at 3.

Schedule for One Possible Compliance Scenario

To illustrate a possible compliance scenario, Midwest Generation provided a possible schedule of unit-by-unit retrofit activity from planning and engineering through completion of construction. Post Br. at 16, *see* Exh. C. The possible schedule assumes all generating units will be in operation as of January 1, 2017, and will be equipped with FGD to achieve the 2017 SO₂ emission rate in the CPS. Midwest Generation stated the schedule will depend on a number of variables. One main variable would be the economic decision as to whether units will be retired or retrofitted. Other variables include fuel variability, changes in regulatory requirements, changes in technology and control costs, lead times for equipment, capital availability, and vendor availability to provide engineering, parts, and labor. Because of these and other variables, Midwest Generation requests that the schedule presented in Exhibit C not be included as an element of the compliance plan to be codified in the variance if granted. Post Br. at 16-17, Exh. C. Midwest Generation states that it will communicate any changes to Exhibit C to the Agency to ensure satisfactory progress toward compliance by the end of the variance period. Post Br. Exh. C.

The possible compliance scenario in Exhibit C shows scheduling milestones for preliminary engineering and project planning, long lead fabrication, construction, and ESP retrofit outage. Units with dates included in the schedule are Joliet Units 7 and 8, Powerton Unit 5, Waukegan Units 7 and 8, and Will County Units 3 and 4. The possible schedule from beginning through end (*i.e.*, preliminary engineering and project planning through the completion of construction) shows Powerton Unit 5 currently in progress through the fourth quarter of 2016, Waukegan Unit 7 currently in progress through the end of 2014, Waukegan Unit 8 from just before the start of 2014 through the second quarter of 2015, Will County Unit 3 from the third quarter of 2014 through the third quarter of 2016, Will County Unit 4 from the beginning of 2015 through the fourth quarter of 2016, and Joliet Units 7 and 8 from the beginning of 2015 through the fourth quarter of 2016. Post Br. Exh. C.

In addition to the possible compliance scenario presented in Exhibit C, Midwest Generation discusses other possible scenarios. In another possible scenario, FGD installations may be found unnecessary depending on the effectiveness of using ultra-low sulfur coal over the years. Another scenario might involve Midwest Generation deciding to retire one or more of its smallest units, negating the need to install FGD equipment on those units. A different scenario

might involve curtailing output from smaller units combined with maximum reductions at the larger units. Post Br. at 17-18. Midwest Generation emphasizes that “[t]he core tenet of any scenario is that Midwest Generation will comply with the CPS in 2017.” Post Br. at 18.

Proposed Variance Terms and Conditions

Midwest Generation suggested language for the variance, including having the revised compliance plan’s provisions as conditions of the variance. The company’s proposed language for relief from requirements reads:

Midwest Generation shall not be subject to the system-wide emission rates of 0.28 lb/mmBtu in 2014 and 0.195 lb/mmBtu in 2015, as set forth in Section 225.295(b).⁹

Midwest Generation shall not be subject to the requirement to install and have operational FGD equipment on Waukegan Unit 8 by December 31, 2014, as set forth in Section 225.296(a)(2). Pet. at 52.

Additionally, Midwest Generation seeks relief from the prior variance granted in PCB 12-121 where the Board ordered compliance with system-wide emission rates for SO₂. Midwest Generation requested the Board grant either a variance from the prior variance, adjust that portion of the prior variance, or find that the variance requested here supersedes that provision of the prior variance. Pet. at 1-2. Relief from the system-wide SO₂ emission rates in the prior variance would entail a one-year period from December 31, 2013 until December 31, 2014. Waukegan Order, slip op. at 20.

In its petition, Midwest Generation requested that its proposed compliance plan serve as variance conditions. Pet. at 52-54. Midwest Generation asserted that establishing unit-specific control details in the conditions of the variance would constrain the flexibility provided by the CPS when adopted. Resp. at 17-18. However, Midwest Generation agreed to use annual progress reports to confirm that activities planned for the next calendar year are included in the company’s budget. *Id.* In addition, Midwest Generation suggested that the report could include “an analysis of the progress toward compliance with the CPS that the planned activities for the upcoming year will provide.” *Id.* at 8.

In proposing a revised compliance plan in its post-hearing brief, Midwest Generation commits to milestones for engineering, planning permitting and construction of FGD equipment that the company will rely upon for compliance with the 2017 SO₂ emission rate. In addition to the annual progress reports, Midwest Generation also commits to providing quarterly progress reports to the Agency, as well as meetings with the Agency if the Agency so requests. Post Br. at 18-19.

⁹ The reference to 2014 and 2015 is a typographical error because Midwest Generation seeks variance relief for 2015 and 2016 and the emission rates of 0.28 lb/mmBtu and 0.195 lb/mmBtu correspond to 2015 and 2016, respectively. See 35 Ill. Adm. Code 225.295(b).

Environmental and Health Impact

Environmental Impact of SO₂ in General

In general, Midwest Generation explained that emissions of SO₂ contribute to the formation of acid rain and fine particulate matter. Acid rain has been associated with the eutrophication of water bodies far downwind of an SO₂ source. Resp. at 12. Dr. Lucy Fraiser, Senior Consulting Toxicologist with AECOM testifying on behalf of Midwest Generation, added that SO₂ can result in damage to foliage of trees and agricultural crops, formation of acid rain resulting in acidification of lakes and streams, corrosion of buildings and monuments, and impairments to visibility.¹⁰ Tr. at 118.

Health Impact of SO₂ in General

In terms of the general human health impact of SO₂ emissions, Dr. Fraiser stated that the major health concerns typically associated with high SO₂ concentrations include “effects on breathing, respiratory illness, alterations in pulmonary defenses, aggravation of existing cardiovascular disease and asthma.” Tr. at 115, 117. Populations most sensitive to SO₂ include people with asthma, cardiovascular disease, and chronic lung disease, as well as children and the elderly. Tr. at 117-118.

Midwest Generation and Dr. Fraiser described the development of USEPA’s new one-hour SO₂ primary NAAQS of 75 parts per billion (ppb) that was established on June 22, 2010. Reply Br. at 12; Tr. at 118-120; 75 Fed. Reg. 35520 (June 22, 2010). In general, Midwest Generation stated that according to USEPA, short-term exposure to SO₂ has been linked through clinical studies to adverse respiratory effects, such as bronchoconstriction and increased asthma symptoms. USEPA identified populations at risk for respiratory illness linked to short-term SO₂ exposure to include children, the elderly, and asthmatics. As to long-term exposure, USEPA concluded there is insufficient evidence to infer a causal relationship between long-term exposure to SO₂ and adverse health effects. Resp. at 12, *citing* 75 Fed. Reg. 35520, 35526, 35527 (June 22, 2010), <http://www.epa.gov/air/sulfurdioxide/health.html> (January 10, 2013).

Dr. Fraiser testified that 9 of the 10 primary epidemiological studies (*i.e.*, studies based on health statistics, such as emergency room visits, and regional air monitoring data, rather than individual exposure data from clinical studies) USEPA relied upon in setting the new one-hour SO₂ NAAQS did not find statistically significant associations between long- and short-term SO₂ exposures and respiratory effects. Tr. at 118-119. Based on the epidemiological studies, USEPA concluded no causal relationship between long-term SO₂ exposure and respiratory effects for mortality. For short-term exposure, USEPA concluded that evidence from epidemiological studies is “suggestive” of a causal relationship with mortality, according to Dr. Fraiser. Tr. at 119. USEPA, however, did find that evidence from clinical studies (*i.e.*, controlled human

¹⁰ Lucy Fraiser, PhD, is certified by the American Board of Toxicology. Dr. Fraiser testified that she has over 20 years of experience in the areas of human health risk assessment and evaluation of human health effects associated with environmental pollutants. Within these areas, Dr. Fraiser specializes in air pollutants in particular. Tr. at 113-114.

studies), where asthmatics are exposed to SO₂ concentrations much higher than found in the ambient air, did support a “causal” relationship between short-term SO₂ exposure and respiratory effects. Tr. at 120. Dr. Fraiser testified that the studies USEPA relied upon in setting the one-hour SO₂ NAAQS used SO₂ concentrations higher than the one-hour SO₂ NAAQS to illicit a statistically significant respiratory response in a sensitive subpopulation of exercising asthmatics. Tr. at 120. Dr. Fraiser explained:

[T]here is a threshold concentration below which [SO₂] does not cause toxic effects. And what that means is that concentrations of [SO₂] have to be greater than this threshold to cause any adverse health effects. Therefore, the fact that a power plant or any other source emits [SO₂], does not necessarily mean that adverse health effects will occur. Tr. at 120-121

Dr. Fraiser also made the distinction “that most epidemiological evidence points to particulate matter as a stronger causal agent in causing both mortality in most cardio respiratory effects than gaseous sulfur dioxide.” Tr. at 117. SO₂ is a PM precursor. *See* 77 Fed. Reg. at 3967, 3973 (Jan. 26, 2012). Because sulfur dioxide is most of the time found in association with particulate matter, Dr. Fraiser explained that separating the health effects of these two pollutants has been difficult. Tr. at 117. USEPA stated that PM_{2.5} is related to premature mortality as well as chronic bronchitis, non-fatal heart attacks, acute bronchitis, lower respiratory symptoms, upper respiratory symptoms, and asthma exacerbation. Resp. at 12, *citing* 76 Fed. Reg. 48208, 48309, 48310 (Aug. 8, 2011). Emissions of fine particulate matter are currently regulated by CAIR. Pet. at 48. USEPA stated:

[A]lthough recognizing the uncertainties associated with separating the effects of SO₂ from those of co-occurring pollutants, the [Integrated Science Assessment for Oxides of Sulfur-Health Criteria] ISA concluded that the limited available evidence indicates that the effect of SO₂ on respiratory health outcomes appears to be generally robust and independent of the effects of gaseous co-pollutants, including NO₂ and O₃, as well as particulate co-pollutants, particularly PM_{2.5} (citations omitted). 75 Fed. Reg. 35531 (June 22, 2010).

Mr. McFarlane testified that in the Agency’s recommendation, discussed below, the Agency “finds no evidence of injury to public from granting of the variance.” Tr. 33.

Environmental and Health Impact of Variance

As to the potential impact of the variance on the environment, Midwest Generation noted that emissions of SO₂ can generally contribute to the formation of acid rain and fine particulate matter. Midwest Generation asserts that it complies with both the Acid Rain permits issued for each station as well as the requirements of CAIR and will continue to do so during the period of the variance if granted. Pet. at 48. Midwest Generation adds that the level of SO₂ emissions in 2015 and 2016 should have no significant impact on water quality. Pet. at 49.

As to the potential impact of the variance on human health, Dr. Fraiser presented a graph comparing emissions under the CPS to those under the proposed variance. Tr. at 122-123; Hrg.

Exh. 12. Dr. Fraiser pointed out that emissions under the variance would decrease over the entire four-year period, with emissions for each successive year lower than the previous year. Tr. at 123. The graph represents the overall net decrease in SO₂ under the variance of 3,181 tons. Tr. at 124. Dr. Fraiser observed that with this “net decrease in SO₂ emissions would also come a corresponding net health benefit, if you assume that the emissions from the plants are capable of causing health effects in the first place.” Tr. at 124. Dr. Fraiser also testified that the decrease in SO₂ emissions would be accompanied by reductions in other air pollutants, which would also be expected to result in the avoidance of potential health effects. Tr. at 124-125.

Under the terms of the variance and assuming Midwest Generation’s SO₂ emissions are associated with a health effect, Dr. Fraiser testified that “granting this variance would provide greater reductions in health effects now in exchange for smaller reductions in health effects later.” Tr. at 125-126. Dr. Fraiser added that any effect on human health resulting from the smaller reductions in 2015 and 2016 would be more than offset by the net emission decrease over the four-year variance period, thus providing health and environmental benefits. Tr. at 125-126. Dr. Fraiser went on to point out that although reductions in SO₂ emissions would be less than contemplated under the CPS in 2015 and 2016, emissions in those years would be less than emissions in 2013 and 2014 and “would theoretically be accompanied by additional health benefits above and beyond those resulting from fewer [SO₂] emissions made in 2013 and 2014.” Tr. at 126.

Dr. Fraiser concluded that “for these reasons, it is my opinion that the proposed variance, if granted, will result in a health and environmental benefit.” Tr. at 129.

Emissions Under the Variance

Midwest Generation stated that overall, SO₂ emissions would decline during the term of the variance. Resp. at 13. Midwest Generation has proposed a declining cap for annual mass emission levels of SO₂ under the variance, such that in no year during the variance would emissions increase over the previous year. Resp. at 13. The declining cap would limit annual SO₂ mass emissions under the variance by year as follows: 57,000 tons in 2013; 54,000 tons in 2014; 39,000 tons in 2015; and 37,000 tons in 2016. Pet. at 52. Midwest Generation points out that the proposed cap on mass emissions for SO₂ and the resulting reduction in the average annual heat input under the variance for 2013 through 2016 would also effectively reduce NO_x, PM, mercury, and CO₂ as described below. Hrg. Exh. 5 at 11.

Compared to what might have been anticipated under the CPS rates of 0.28 lb/mmBtu in 2015 and 0.195 lb/mmBtu in 2016, Midwest Generation explained that the proposed rate under the variance of 0.38 lb/mmBtu would result in slightly more SO₂ emissions for those two years. However, “[a]ny effect on human health and the environment of that difference would be minimal and would be more than offset by the overall net emission decrease and resulting environmental benefit arising from early emission reductions due to the variance as proposed.” Resp. at 13-14. Midwest Generation calculated that the net emission decrease over the 2013 through 2016 duration of the variance would be 3,181 tons of SO₂ less than emissions expected based upon the allowable CPS rates and historic heat input. Hrg. Exh. 5 at 11, Table 5.1.

As to the impact on emissions from extending the deadline of December 31, 2014 under Section 225.296(a)(2) for five months, Midwest Generation states that the deferral to install FGD equipment on Waukegan Unit 8 or shut it down would have no adverse impact. Under the proposed variance, Midwest Generation would not operate Waukegan Unit 8 after that date beginning January 1, 2015 until the FGD installation is completed. Pet. at 45. As a condition of the variance, Midwest Generation proposes that FGD equipment will be operational on Waukegan Unit 8 by May 31, 2015, or the unit will be permanently shut down. Pet. at 53.

As described below, in addition to SO₂, Midwest Generation points out that emissions of other pollutants, including NO_x, PM, mercury and CO₂, would also be reduced under the proposed variance, providing additional reductions for those pollutants on top of those achieved by the CPS controls alone. Pet. at 45.

Sulfur Dioxide (SO₂). Under the variance, Midwest Generation is proposing a “step-down” in the SO₂ emission rate to mitigate any impact from the variance. Midwest Generation proposes stepping down from the 2014 CPS rate of 0.41 lb/mmBtu to the proposed variance rate of 0.38 lb/mmBtu in 2015 and 2016, then to the 2017 CPS rate of 0.15 in 2017. Hrg. Exh. 5 at 11; Pet. at 53.

In addition, Midwest Generation is proposing caps on mass SO₂ annual emissions as a part of the variance. Midwest Generation states that this serves to ensure lower emissions over the period from 2013 through 2016 than would be expected based upon the allowable CPS rates for these years under 35 Ill. Adm. Code 225.295(b) and average heat input for 2008-2011 for units legally permitted to operate during the proposed variance term. Based on the Section 225.295(b) CPS rates for 2013 through 2016 and the average heat input for 2008-2011 for units legally permitted to operate during the proposed variance term, Midwest Generation calculated that expected emissions under the CPS would be 190,181 tons for the 4 year period from 2013 through 2016. Based on the proposed SO₂ emission rates and mass emission caps under the variance, Midwest Generation calculated emissions of 187,000 tons over the 4 year period from 2013 to 2016. Midwest Generation states, therefore, the impact of the variance would thus be a net reduction of 3,181 tons of SO₂, as compared to emissions expected based upon the allowable CPS rates and historic heat input. Hrg. Exh. 5 at 11, Table 5.1.

For the sake of comparison, Midwest Generation presents a table depicting the proposed emission rates and mass emissions under the variance alongside the CPS emission rates and expected emissions for the term of the variance. Hrg. Exh. 5, Table 5.1.

Table 5.1
(Attachment to Affidavit of Fred McCluskey)

| | | 2013 | 2014 | 2015 | 2016 | Totals |
|---|-----------------------------------|--------|--------|--------|--------|---------|
| 1 | CPS emission rates (lb/mmBtu) | 0.44 | 0.41 | 0.28 | 0.195 | |
| 2 | SO ₂ emissions (tons)* | 65,341 | 60,886 | 37,699 | 26,255 | 190,181 |
| | | | | | | |

| | | | | | | |
|---|---|--------|--------|-------------|-------------|---------|
| 3 | Proposed CPS emission rates (lb/mmBtu) ¹¹ | 0.44 | 0.41 | 0.38 | 0.38 | |
| 4 | SO ₂ emissions (tons)** | 65,341 | 60,886 | 51,163 | 51,163 | |
| 5 | Proposed SO ₂ mass emission level limits (tons) | 57,000 | 54,000 | 39,000 | 37,000 | 187,000 |
| | | | | | | |
| 6 | Delta per year comparing proposed mass limits (row 5) with emissions at CPS rates (row 2) | 8,341 | 6,886 | <1,301> | <10,745> | |
| 7 | Cumulative reduction (based on row 6) | 8,341 | 15,227 | 13,926 | 3,181 | 3,181 |

* Based on average 2008-2011 heat input for the units legally permitted to operate in 2013-2016, respectively, and the emission rates indicated in row 1.

** Based on average 2008-2011 heat input for the units legally permitted to operate in 2013-2016, respectively, and the emission rates indicated in row 3.

Hrg. Exh. 5, Table 5.1 (emphasis in original).

In its comparison, Midwest Generation calculated the mass emissions for each year from 2013 through 2016 under the CPS by multiplying the CPS rate for that year by the annual average heat input from 2008 through 2011 for each unit that Midwest Generation is not prohibited from operating during that year. These units, which Midwest Generation is permitted to operate during 2013 through 2016 under the CPS and PCB 12-121, are Crawford Units 7 and 8 (only in 2013 and 2014); Joliet Units 6, 7, and 8; Powerton Units 5 and 6; Waukegan Units 7 and 8; and Will County Units 3 and 4. Midwest Generation added up the calculated emissions for each of those units to form a “CPS Baseline” for SO₂, NO_x, PM, CO₂, and mercury. Resp. at 10-11. Hrg. Exh. 10¹², 11.

Then Midwest Generation calculated the SO₂ emission for the same years by multiplying the proposed SO₂ rates under the variance by the same annual average heat input used above. This resulted in potential annual SO₂ emissions of 65,341 tons, 60,886 tons, 51,163 tons and 51,163 tons for the years 2013 through 2016. Next, Midwest Generation tallied these potential annual mass emissions alongside the declining cap proposed in the variance, showing how the

¹¹ The 2013 and 2014 rates indicated are from the CPS regulations (35 Ill. Adm. Code 225.295(b)), but the 2015 and 2016 rates indicated are proposed by Midwest Generation in its variance request.

¹² Midwest Generation notes that emission limits in Exhibit 10 are system-wide and not intended to reflect unit-specific emission rates or mass emission levels. Resp. at 11.

proposed cap would keep mass emissions lower than SO₂ emissions based on the variance rate alone. Hrg. Exh. 5, Table 5.1.

Midwest Generation then calculated the difference between the annual SO₂ mass emissions under the CPS Baseline and the caps for each year of the proposed variance and for all four years cumulatively, showing a cumulative net reduction of 3,181 tons of SO₂ during the term of the variance. Hrg. Exh. 5, Table 5.1; Hrg. Exh. 10, 11.

As explained below, to quantify the cumulative net reduction for other pollutants (NO_x, CO₂, mercury, and PM), Midwest Generation used the heat input based on the proposed caps for SO₂ to calculate cumulative mass emissions that were comparatively less than anticipated under the CPS over the proposed variance period using the heat input based on the average heat input from 2008 through 2011. Hrg. Exh. 10.

For the prior years 2000 to 2012, Midwest Generation points out that annual emissions of SO₂ have been reduced by approximately 40%, from 94,195 to 56,395 tons per year (tpy). Pet. at 47. In 2012, Midwest Generation contends that it ceased operations of the coal-fired units at Fisk and Crawford Stations earlier than required by the Waukegan Order variance. Pet. at 44-45. With these early shutdowns, Midwest Generation realized reductions of 734 and 1,249 tons of SO₂ in 2012 from Fisk and Crawford, respectively.¹³ Pet. at 44-45; Hrg. Exh. 5 at 11. Mr. McFarlane testified that the Agency, in its recommendation discussed below, found that the company's "calculation and demonstration of net environmental benefit is consistent with past variances the [B]oard has granted." Tr. at 33.

Nitrogen Oxides (NO_x). The proposed cap on mass emissions for SO₂ under the variance would also effectively reduce NO_x in the years 2013 through 2016 by 2,085 tons, 1,847 tons, 3,521 tons, and 4,100 tons, respectively, for a cumulative net reduction of 11,553 tons NO_x. Hrg. Exh. 5 at 11; Resp. at 11; Hrg. Exh. 10; Tr. at 69.

Midwest Generation points out that its annual emissions of NO_x have been reduced by approximately 74% from 2007 to 2012. Hrg. Exh. 5 at 3. From 2000 to 2012, Midwest Generation reduced NO_x emissions by 83%, from 72,283 to 12,526 tpy. In 2012, early shutdowns of the coal-fired units at Fisk and Crawford resulted in a reduction of 461 tons of NO_x. Pet. at 45, Exh. 5 at 11. Midwest Generation states that it achieved a system-wide NO_x emission rate 10% better than the required 2012 CPS NO_x limit. Hrg. Exh. 5 at 3.

Mercury. Midwest Generation asserts notes that during the period of the variance, it will continue to operate its ACI systems and comply with the mercury emission rates set forth in the Section 225.294 by the January 1, 2015 deadline or sooner. Midwest Generation claims that the requested variance would accordingly have no negative impact on system-wide reductions in mercury. Pet. at 47.

¹³ Midwest Generation asserts that it "conservatively did not include any of these early reductions in its calculation of net environmental benefit." Post Br. at 13, n.6 (1,983 tons of SO₂, 461 tons of NO_x, 299 tons of PM, 3 pounds of mercury, 904,477 tons of CO₂).

Under the variance, according to Midwest Generation, the proposed cap on mass emissions for SO₂ would also reduce mercury emissions in the years 2013 through 2016 by 33 lbs, 29 lbs, 56 lbs, and 65 lbs, respectively, for a cumulative net reduction of 183 lbs mercury. Hrg. Exh. 5 at 11, Resp. at 11, Exh. 10.

Annual emissions of mercury have been reduced by approximately 84% from 2007 to 2012 by Midwest Generation, from approximately 1,345 pounds per year to 221 pounds per year. Pet. at 46; Hrg. Exh. 5 at 3-4. In 2012, early shutdowns of the coal-fired units at Fisk and Crawford resulted in a reduction of 3 lbs of mercury. Pet. at 45; Hrg. Exh. 5 at 11.

Greenhouse Gases (CO₂). The proposed variance according to Midwest Generation, would also effectively reduce CO₂ emissions in the years 2013 through 2016 by 4,018,889 tons, 3,560,574 tons, 6,785,534 tons, and 7,901,324, respectively, for a cumulative net reduction of 22,266,320 tons CO₂. Hrg. Exh. 5 at 11; Resp. at 11; Hrg. Exh. 10; Tr. at 69.

Annual emissions of CO₂ have been reduced by approximately 20% from 2007 to 2012 by Midwest Generation. Hrg. Exh. 5 at 3. In 2012, early shutdowns of the coal-fired units at Fisk and Crawford resulted in a reduction of 904,477 tons of CO₂. Pet. at 45, Exh. 5 at 11. Midwest Generation mentions that these reductions in CO₂ were not required by any applicable law or regulation. Pet. at 47.

Particulate Matter (PM). According to Midwest Generation, under the variance, the proposed cap on mass emissions for SO₂ would also reduce PM emissions in the years 2013 through 2016 by 777 tons, 689 tons, 1,312 tons, and 1,528 tons, respectively, for a cumulative net reduction of 4,306 tons PM. Hrg. Exh. 5 at 11; Resp. at 11; Hrg. Exh. 10; Tr. at 69. Annual emissions of PM have been reduced by approximately 23% from 2007 to 2012 by Midwest Generation. Hrg. Exh. 5 at 3. In 2012, early shutdowns of the coal-fired units at Fisk and Crawford resulted in a reduction of 299 tons of PM. Pet. at 45, Exh. 5 at 11.

While the CPS does not contain PM reduction requirements for Midwest Generation, except for the two units with hot-side ESPs at Waukegan Unit 7 and Will County Unit 3, Midwest Generation is investing in PM controls associated with the planned Trona SO₂ controls to ensure compliance with the federal MATS. Hrg. Exh. 5 at 4-5. Additionally, according to the company, the PM limitations at Section 212.203 (35 Ill. Adm. Code 212.203) also apply, and Midwest Generation claims that its stations are currently in compliance with these requirements and will remain so. Pet. at 48. Midwest Generation explains that the injection of Trona to control SO₂ emissions will increase the PM loading to the existing ESPs on the EGUs, but the company contends that improvements to the ESPs will allow Midwest Generation to maintain the current levels such that PM emissions will not increase as a result of the variance. Pet. at 48.

Examined Alternatives for Timely CPS Compliance

Midwest Generation examined several alternative compliance strategies to avoid the need for a variance. Pet. at 27.

Dry and Wet Scrubbers

Besides the Trona injection systems, Midwest Generation looked at other types of dry scrubbers. Midwest Generation stated that with other types of dry scrubbers, a baghouse must be installed, resulting in costs on the order of at least three times more than the Trona system. At this point, engineering and installing other types of dry scrubbers would take approximately two and a half years. Hrg. Exh. 5 at 9; Tr. at 67.

As for wet scrubbers, Midwest Generation explained that wet scrubbers would not be an appropriate control technology for the low sulfur coal Midwest Generation is under contract to procure. Additionally, wet scrubbers would be more expensive and more time consuming to install than the Trona systems. Pet. at 27; Exh. 5 at 9.

Natural Gas

Midwest Generation also evaluated the option of converting its coal-fired units to natural gas, but found that none of the units could survive in the marketplace if they were converted. The only units that have access to natural gas sufficient to operate at full load would be Fisk Unit 19 and Crawford Units 7 and 8, however, these units have been shut down. To provide sufficient gas for full load operation for units at other plants would require significant investment. Based on industry experience in the construction and operation of both conventional boiler fired and new combustion turbine gas plants as well as in economics of coal and natural gas, Midwest Generation determined that a gas conversion would not be an economically viable compliance option. Pet. at 27-28, Exh. 5 at 9-10.

In terms of the framework of the CPS, Midwest Generation states that if the units were converted to natural gas, they could no longer be included in the CPS system-wide rate average. Section 225.292(b) provides that “[a] specified EGU is a *coal-fired* EGU listed in Appendix A.” 35 Ill. Adm. Code 225.292(b) (emphasis added). Midwest Generation maintains therefore that even if some units were converted to natural gas, it would not help Midwest Generation comply with the CPS system-wide rate. Pet. at 28.

Generation Curtailment

Midwest Generation also considered the feasibility of complying with the CPS rates by curtailing generation at the coal-fired units that would not have the Trona injection systems during the 2015 to 2016 compliance timeframe. Pet. at 28. Midwest Generation stated that generation would need to be curtailed by as much as 75% by 2016 on the units where Trona systems have not been installed. Midwest Generation states that such action could result in penalties under its capacity contracts and might require regulatory approval due to concerns with reliability of the electrical grid. With this level of curtailment, Midwest Generation found that the loss in revenue would threaten the continued existence of the entire fleet and Midwest Generation itself. Mr. McCluskey stated that “[s]hutting Midwest Generation’s plants would have devastating impacts on hundreds of workers and their families, and would drain literally hundreds of millions of dollars from the economy.” Pet. at 28; Hrg. Exh. 5 at 10.

Operational Management Measures

Midwest Generation was asked whether other operational management measures, such as temporarily optimizing existing control systems, could be pursued to reduce emissions further than proposed in the petition during the time of the variance. The company responded that “the company always seeks to optimize existing controls and considers such to be a key component of compliance planning.” Resp. at 16. Midwest Generation asserted, however, that “[o]ther than burning [ultra-low sulfur coal], which Midwest Generation is already doing, there is no emission control that Midwest Generation can adjust to optimize reduction of SO₂ emissions.” *Id.* at 16-17. Midwest Generation added that no other operational management measures could be undertaken to further reduce SO₂ emissions during the period of the variance beyond what is proposed. *Id.* at 16.

Ultra-Low Sulfur Coal

Midwest Generation states that the first component of its SO₂ control program is the use of ultra-low sulfur coal, typically containing less than 0.55 lbs sulfur per mmBtu. Midwest Generation has found that combusting ultra-low sulfur coal is an effective way to reduce SO₂ emissions. Hrg. Exh. 5 at 5.

Midwest Generation is using ultra-low sulfur coal and asserts that it has not found an alternative supply that would allow it to meet the 2015 and 2016 CPS rates. Hrg. Exh. 5 at 10. The portfolio of fuel supplies for which Midwest Generation contracts varies as do the sources of coal and the sulfur content of the coal from the same source. Midwest Generation asserts that it continuously evaluates its coal mix to ensure compliance in the most cost-effective manner. The use of ultra-low sulfur coal is part of Midwest Generation’s strategy to comply with the CPS system-wide SO₂ emission rates, particularly in the early years for units where Trona systems have not been installed. Midwest Generation states that as more units in the fleet are fitted with SO₂ controls, the need for ultra-low sulfur coal will decrease.

Under the variance, Midwest Generation plans to continue using ultra-low sulfur coal on units where Trona systems have not yet been installed, but the percentage will vary depending on the sulfur content of other coal obtained and actual emissions. Depending on what is needed to ensure compliance with the CPS, Midwest Generation might potentially use ultra-low sulfur coal on units with Trona systems as well. As for including a requirement to use ultra-low sulfur coal in the compliance plan, Midwest Generation asserts the varying market conditions and sources do not lend themselves to a tight fuel requirement. However, Midwest Generation commits to use as much ultra-low sulfur coal is necessary, in conjunction with the Trona system installations to ensure compliance with the applicable system-wide SO₂ emission rates. Resp. at 14-16.

Dry Sorbent Injection FGD

To meet the requirement for Midwest Generation to install FGD equipment at most of its coal-fired units, Midwest Generation selected a combination of ultra-low sulfur coal and Trona injection FGD as the least expensive yet effective method for SO₂ control. Midwest Generation

found that this would allow the company to stagger its capital investments over time. Hrg. Exh. 5 at 5; Tr. at 66-67.

Midwest Generation explains that Trona is a mineral used in the production of sodium bicarbonate (baking soda). Under the FGD application, Trona is injected into the flue gas upstream of a PM control device, such as an ESP. Trona reacts with acid gases, such as SO₂, and neutralizes them, forming a dry powder that can be removed by the PM control device. Hrg. Exh. 5 at 5-6.

Consistency with Federal Law

Midwest Generation contends that the proposed variance “is consistent with - and even more stringent than - applicable provisions of the federal Clean Air Act.” Post Br. at 14. The company asserts the Board may grant the requested variance consistent with federal law. Midwest Generation states that granting the variance would have no impact on Section 110(a) of the Clean Air Act or 40 C.F.R. Part 51. Section 110(a)(2)(D) of the Clean Air Act is currently addressed through CAIR, with which Midwest Generation asserts that it complies and will continue to do so as long as CAIR is applicable.

Midwest Generation asserts the variance would not negatively impact the Agency’s calculations for the federal BART requirements under Illinois’ SIP for the Regional Haze Rule. Pet. at 50. The Illinois regional haze plan addresses Section 169A of the Clean Air Act (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. On June 24, 2011, the Agency submitted a revision to the Illinois SIP addressing regional haze. Pet. at 50, *citing* 77 Fed. Reg. 3966 (Jan. 26, 2012). Midwest Generation explained that the Agency included portions of the CPS in its submittal to USEPA for approval. These portions include Sections 225.295(b) and 225.296(a)(2) from which Midwest Generation requests a variance. USEPA approved Illinois’ submittal as part of the SIP on July 6, 2012, which included those portions of the CPS that establish annual system-wide SO₂ emissions rates. Pet. at 50-52, *citing* 77 Fed. Reg. 3966 (January 26, 2012), 77 Fed. Reg. 39943 (July 6, 2012); Hrg. Exhs. 7, 8.

To demonstrate that the requested variance would not interfere with federal law, Midwest Generation provided a table comparing emission reduction levels under the variance to the presumptive BART levels and the CPS levels. Hrg. Exh. 9.¹⁴ Reductions under the variance were calculated based on the proposed variance rate of 0.38 lb/mmBtu in 2015 and 2016 using the same heat input data from the Agency’s SIP submittal to USEPA and also reflected reductions associated with the shutdowns of Crawford Units 7 and 8 and Fisk Unit 19. Pet. at 51; Hrg. Exh. 6 at 33; Hrg. Exh. 9. For Midwest Generation’s EGUs subject to BART, reductions under the presumptive BART totaled 31,440 SO₂ tons per year (tpy). Hrg. Exhs. 6, 9. Reductions calculated by the Agency under the CPS totaled 35,465 tpy for 2015; 55,140 tpy for 2017; and 61,194 tpy for CPS Final. Reductions calculated by Midwest Generation under the

¹⁴ Midwest Generation notes that emission limits in Exhibit 9 are system-wide and not intended to reflect unit-specific emission rates or mass emission levels. Resp. at 11; Hrg. Exh. 6 at 33.

proposed variance rate of 0.38 lb/mmBtu totaled 33,458 tpy in 2015; 60,354 tpy in 2017; and 65,032 tpy in 2019. Hrg. Exh. 9.

For 2015, Midwest Generation notes that although the reductions under the variance rate of 0.38 lb/mmBtu would be less than those under the CPS rate of 0.28 lb/mmBtu for that year, the variance would achieve reductions greater than the presumptive BART reductions. Midwest Generation stresses that “the reductions that can be expected for 2017, the compliance year, and 2019, the final year of the CPS step-downs in SO₂ emission rates, are significantly greater than [the Agency] anticipated when it developed the BART SIP because of Midwest Generation’s actions to reduce emissions.” Pet. at 51.

Midwest Generation points out that compliance with the limit reflecting BART in the Illinois SIP is due no later than five years after the SIP was approved. As USEPA approved Illinois’ submittal in July 2012, compliance would be required by mid-2017, approximately six months after the end of the requested variance period. Pet. at 50-51, *citing* 42 U.S.C. § 7491(g)(4) and 40 C.F.R. § 51.308(e)(1)(iv). Midwest Generation asserts that by then, the company will comply with the CPS 2017 system-wide annual SO₂ limit of 0.15 lb/mmBtu. Pet. at 51.

Prior to the BART compliance date, Midwest Generation states that if the variance were granted, the Agency would need to submit the variance to USEPA as an amendment to Illinois’ BART SIP for approval. The Agency’s submittal would only involve the proposed variance rate of 0.38 lb/mmBtu in 2015 and 2016, not the mass emissions caps because Illinois’ approach to the BART SIP only involves emission rates. Pet. at 51-52.

Mr. McFarlane testified that Midwest Generation is aware of the Agency’s plans to include CPS reductions in the attainment demonstration for the new SO₂ NAAQS required by 2017. He explained that the proposed compliance plan requires Midwest Generation to be in compliance with the CPS limits that are effective in 2017. Tr. at 37-38. Mr. McFarlane added that by returning to compliance in 2017 and seeking relief only during 2015 and 2016, the variance would impose no hindrance to the State in demonstrating attainment of the NAAQS for SO₂, particulate matter, and ozone. Tr. at 26-27.

AGENCY RECOMMENDATION

Section 37(a) of the Act requires the Agency to investigate any petitions for variance filed with the Board and to make a recommendation to the Board as to the disposition of the petition. *See* 415 ILCS 5/37(a) (2010). On January 10, 2013, the Agency filed its recommendation with the Board, stating that the Agency “neither supports nor objects to the Board granting [Midwest Generation’s] Petition as specified in this Recommendation.” Agency Rec. at 1.¹⁵

¹⁵ The Agency states that it received one written comment regarding the variance petition, on behalf of Uhlman Farms of Morton, which supports the variance request. Agency Rec. at 3, *citing* Agency Rec. Exh. A.

Agency Investigation of Facts in the Petition

The Agency states that it is unaware of any state enforcement actions against Midwest Generation currently pending before the Board. Agency Rec. at 4. The Agency notes that air permits associated with Midwest Generation's facilities are set forth in Exhibit 2 of the company's variance petition, and incorporates that exhibit by reference into its recommendation. *Id.*

The Agency's investigation of facts alleged in Midwest Generation's petition included holding discussions with representatives of the company. Agency Rec. at 6. The Agency states that it does not disagree with the petition's facts, except as otherwise specified in its recommendation. *Id.*

Environmental and Health Impact

The Agency confirms the 2010 locations of the air monitoring stations relative to Midwest Generation's facilities, as set forth in the petition. Agency Rec. at 6. However, the Agency notes that several monitors and sites included in Midwest Generation's petition have been shut down. *Id.* Those specific shutdowns include an ozone monitor and site and a PM_{2.5} monitor in Lake County, and a SO₂ monitor and site and PM₁₀ monitor in Will County. *Id.* The Agency states that the 2011 *Illinois Annual Air Quality Report* reflects the current locations of the air monitoring stations in Lake, Will, and Tazewell Counties, and attaches pertinent parts of that report as Exhibit C to the recommendation. *Id.*

The Agency states that "the calculated net environmental benefit is smaller than that calculated for previous variances granted [by the Board in Ameren Energy Resources v. IEPA, PCB 12-126 (Sept. 20, 2012) and the Waukegan Order]." Agency Rec. at 7-8. Midwest Generation proposes 3,181 tons of SO₂ reduction in this variance request, compared to the 64,964 and 8,385 tons of SO₂ reductions proposed in the respective 2012 requests of Ameren Energy Resources (AER) and Midwest Generation. *Id.* at 8, *citing* Ameren, PCB 12-126, slip op. at 25; Midwest Generation, LLC - Waukegan Generating Station v. IEPA, PCB 12-121, Petition at 21. The Agency continues:

As this is [Midwest Generation's] second variance request in the same year, it would be preferable that a stronger case be made to again amend a voluntary agreement and expend the considerable resources required by numerous parties to review the merits of the variance request. *Id.*

The Agency concedes, however, that the amounts of SO₂ emission reductions set forth by Midwest Generation are consistent with data currently available to the Agency, and that Midwest Generation's determination showing a "net environmental benefit in SO₂ emissions over the term of the variance" is consistent with the method used in similar prior variance requests. *Id.*

Arbitrary or Unreasonable Hardship

The Agency “does not disagree” with Midwest Generation’s position that certain Illinois emission reduction requirements are more stringent than those required by other states or under federal rules. Agency Rec. at 13. However, the Agency contends that Midwest Generation was aware of several of these requirements when the CPS was promulgated and that such provisions “in fact formed the backdrop for negotiations between the [Agency] and power generators.” *Id.* The Agency states that it is unable to estimate the cost of Midwest Generation’s compliance with the CPS provisions at issue based on currently available information and the Agency’s own level of expertise. *Id.*

The Agency “does not believe that any injury to the public would result from the granting of the variance.” Agency Rec. at 13. However, the Agency notes the uncertainty associated with the Chapter 11 bankruptcy proceedings entered into by Midwest Generation and EME in December 2012, and believes that, while such proceeding may aid Midwest Generation’s compliance with current regulations, “it could also potentially hinder [the company’s] ability to comply both with the CPS and with any Board Order issued regarding [the company’s] requested variance.” *Id.*

Consistency with Federal Law

The Agency agrees with Midwest Generation that there is currently no federal authority that precludes granting this variance request, and that if the request is granted, the Agency will submit the variance order to USEPA for approval as a SIP revision. Agency Rec. at 14. Jim Ross, Manager of the Agency’s Division of Air Pollution Control, Bureau of Air, testified on whether the variance request would jeopardize the State’s ability to meet its current obligations under the Illinois SIP or regarding NAAQS compliance:

[The Agency] believes that granting the variance request will not jeopardize its current obligations under the Illinois SIP. Current obligations to attain and maintain the NAAQS will not be jeopardized due to the net environmental benefit over the term of the variance.

[The Agency’s] obligations for the 2010 SO₂ NAAQS will not be jeopardized, since the variance ends December 31st 2016, while the attainment date of the 2010 SO₂ NAAQS is no sooner than July, 2017. The variance will end prior to the 2010 SO₂ NAAQS attainment date, and, therefore, no impact is expected. Tr. at 136-137.

Compliance Plan

The Agency did not suggest variance conditions in any of its filings with the Board. However, Midwest Generation represents that the revised compliance plan in the company’s post-hearing brief reflects comments from the Agency. Reply Br. at 1.

Agency Conclusion

The Agency notes that the burden of proof in a variance proceeding is on the petitioner to demonstrate that compliance with the rule or regulation would impose an arbitrary or unreasonable hardship. Agency Rec. at 15. The Agency concludes its recommendation by stating that it “neither supports nor objects to the Board granting [Midwest Generation’s] petition as specified in this Recommendation.” *Id.*

VERBAL PUBLIC COMMENT AT HEARING

At the January 29, 2013 public hearing in Joliet, Will County, in addition to the testimony and documentary evidence discussed above, verbal public comment was provided from 45 individuals.

Hearing Comments Supporting Variance

The Board received twenty comments at hearing in support of granting the variance petition. *See* Attachment A – Hearing Commenters in Support of Midwest Generation’s Requested Variance.

These commenters included Senator Pay McGuire (Tr. at 7) and Representative Larry Walsh, Jr. (Tr. at 9). The Board also received comments from Will County (Tr. at 12), the Illinois Chamber of Commerce (Tr. at 92), and the Joliet Region Chamber of Commerce (Tr. at 97). Other public comments were given by representatives of organizations such as Illinois AFL-CIO (Tr. at 15) and the International Brotherhood of Electrical Workers Local 15 (Tr. at 88). Representatives of Midwest Generation and its stations (*See, e.g.*, Tr. at 137, 143) as well as employees (*See, e.g.*, Tr. at 182) provided comments. Organizations in the area (*See, e.g.*, Tr. at 99) as well as businesses that work with Midwest Generation (*See, e.g.*, Tr. at 199) gave support for the granting of Midwest Generation’s request.

A number of commenters stressed their concern for the environment (*See, e.g.*, Tr. at 10), while praising Midwest Generation’s commitment to meeting environmental emission requirements. *See, e.g.*, Tr. at 12, 142. Representative Walsh stressed that the company “has done nothing but reduce emissions at its plants since they bought them.” Tr. at 10. John Kennedy, Senior Vice President for Midwest Generation, discussed how the company is “well ahead of meeting federal standards for nitrogen oxide” and that it has “continued to improve sulfur dioxide emissions.” Tr. at 138.

Commenters also focused on the financial hardships currently facing the company. *See, e.g.*, Tr. at 8, 10, 89, 187. Commenters stressed the financial contributions made by Midwest Generation in the local communities, whether through charitable contributions (Tr. at 99), or area property taxes (*See, e.g.*, Tr. at 8, 13). Will County Executive Larry Walsh stated that annual salary from wages and benefits at the Joliet and Will County plants is fifty million dollars, while these plants provide \$1.7 million in annual local property taxes. Tr. at 13. Others focused on Midwest Generation’s position as a reliable provider of electricity to the residents of Illinois (Tr. at 106) and its important role in the local communities (*See, e.g.*, Tr. at 141, 190).

Some commenters discussed the number of employees impacted by Midwest Generation, whether employed by the company itself or from area businesses that work together with the company. *See, e.g.*, Tr. at 8, 16. Russ Slinkard, representing the Joliet Region Chamber of Commerce and Industry, believes that

[i]f granted, this request will benefit our communities with continued jobs and with dollars that are injected into our economy, and tax revenues for our schools and services. Tr. at 97-98.

Generally, commenters recited concerns and positions similar to Tom Wolf, representing the Illinois Chamber of Commerce, who stated

[t]he company's request is straightforward, reasonable and it falls in line with our support for rational regulatory flexibility, while still leaving intact the overall goal and timeline established by the Board.

The adjustment will still provide positive benefits for the people of Illinois and predictability for the energy marketplace. Tr. at 92-93.

Hearing Comments Opposing Variance

The Board received twenty five comments at hearing opposing the variance request. *See* Attachment B - Hearing Commenters Opposing Midwest Generation's Requested Variance. Environmental groups, including the Citizens Groups, commented against granting the variance. The Board also heard comments from organizations that are not environmental groups. *See, e.g.*, Tr. at 90, 172. Additionally, individuals from throughout Illinois voiced opposition to the variance request.

Citizens Groups. Members of the Environmental Law and Policy Center (Tr. at 144, 148), Natural Resources Defense Council (Tr. at 150), Citizens Against Ruining the Environment (Tr. at 156, 191), Sierra Club (Tr. at 157), and Respiratory Health Association (Tr. at 172) made comments at the Board hearing.

Faith Bugel, on behalf of Environmental Law and Policy Center, draws similarities between Midwest Generation's variance request and one granted by the Board in Ameren, PCB 12-126 (Sept. 20, 2012). Tr. at 144-145. Ms. Bugel believes that Midwest Generation is unable to present the Board with any assurances that it will continue to operate its plants even if the variance is granted, in part because of financial and bankruptcy concerns. *Id.* at 145-146. Ms. Bugel also disagrees with Midwest Generation's environmental benefit assessment, stating

if we look at the CPS base case the tons of emissions for 2013 are claimed to be 65,341 tons. And this is based on a 2008 to 2011 average. If we look at 2011 actuals, . . . actuals in 2011 were 56,395 tons . . . which makes the real environmental benefit disappear. Tr. at 147-148, referring to Hearing Exh. 12.

Andrew Armstrong, on behalf of Environmental Law and Policy Center, focused on what he described as Midwest Generation's "refusal to provide a legally sufficient compliance plan." Tr. at 148. Mr. Armstrong contends that the company's request for flexibility in its compliance plan is inconsistent with the Board's variance grant in Ameren, PCB 12-126. *Id.* at 148-149. Mr. Armstrong believes Midwest Generation's position is that this flexibility is consistent with the "spirit" of the CPS, but that it is not consistent with the legal requirements of a variance. *Id.* at 149. Mr. Armstrong contends that Midwest Generation's request is "an outright amendment of the CPS that should be made . . . through a rule making, not a variance proceeding." *Id.*

Susie Shutts, on behalf of Natural Resources Defense Council, believes that Midwest Generation should be held to the previously agreed emission standards for three reasons. First, Ms. Shutts states that Midwest Generation's commitment to reduce SO₂ was part of a larger settlement agreement in 2006 which the company opted into and which it should not now be allowed to avoid. Tr. at 151. Second, Ms. Shutts does not believe that the company has provided adequate assurance that it will comply with its proposed schedule and not seek another variance in the future. *Id.* at 152. Ms. Shutts states the difficulty in predicting the outcome of bankruptcy proceedings and the financial situation that Midwest Generation will find itself in. *Id.* Third, Ms. Shutts contends there is no reason to believe that decreasing revenues and increasing costs will change to allow the company to fund pollution controls in the future. *Id.* at 153-154.

Sandy Burcenski, a member of Citizens Against Ruining the Environment (CARE), questioned Midwest Generation's commitment to Will County and changes in the company's "good faith plans" to implement pollution controls at its facilities. Tr. at 156-157. Jennifer McElroy, another member of CARE, voiced concern about a family member suffering from asthma, and believes that communities should be focusing on renewable energy sources. *Id.* at 191-192.

Verena Owen, a volunteer with Sierra Club, described the passing of a friend due to a lung ailment. Tr. at 158. Ms. Owen questioned Midwest Generation's financial predicament and does not believe that the variance will resolve any of the company's financial problems. Tr. at 159-161.

Brian Urbaszewski, on behalf of Respiratory Health Association, described the relationship between air pollution and health effects such as asthma and heart attacks. Tr. at 172-173. Mr. Urbaszewski contends that Midwest Generation has begun dismantling the Crawford Station, causing the plant to be inoperable. *Id.* at 174. Mr. Urbaszewski believes this inability to run the Crawford Station should be given allowance as a credit for SO₂ emissions avoided. *Id.* at 175. Mr. Urbaszewski contends that Midwest Generation benefitted from the CPS agreement and now the company does not "want to invest in cleaner emissions they promised Illinois residents." *Id.*

Other Organizations and Individuals. The Board heard from a number of environmental organizations throughout Illinois, including Greenpeace (Tr. at 110, 209), Peoria Families Against Toxic Waste (Tr. at 165), and the Illinois Environmental Council (Tr. at 179). Student organizations, including Progressive Student Union (Tr. at 90) and Illinois Student

Environmental Coalition (Tr. at 195) were represented at the hearing. A number of individuals also described why the Board should deny Midwest Generation's variance request.

Commenters generally presented sympathy for Midwest Generation's employees (*See, e.g.*, Tr. at 91) and the company's own bankruptcy proceeding (*See, e.g.*, Tr. at 104). However, these commenters believed that these were not proper grounds for granting a variance request.

A number of organizations and individuals raised concerns over the health and environmental effects that granting the variance would cause on surrounding communities and the State in general. (*See, e.g.*, Tr. at 90, 104, 189). Some commenters presented their own struggles with respiratory health problems in requesting that the Board deny the request. *See, e.g.*, Tr. at 177, 203, 218.

Some commenters questioned Midwest Generation's past compliance. *See, e.g.*, Tr. at 162. Others challenged Midwest Generation's business choices in preparing the company's environmental commitments. *See, e.g.*, Tr. at 110, 166, 168. Mike Johnson, on behalf of Greenpeace, stated that Midwest Generation:

has just not really taken on a lot of those challenges [regarding business choices] in a very forthcoming way and in a way that's really been in the best interest of its own employees and the residents that live near the plants. Tr. at 110-111.

Tameka Gibson, on behalf of the Illinois Environmental Council, stated that "Midwest Generation voluntarily opted into the combined pollutant standard in 2007, knowing full well the benefits, risks and obligations that came with that choice." Tr. at 180. Some commenters also questioned the viability of coal-fired power plants in general in light of other emerging energy technologies. *See, e.g.*, Tr. at 210.

Commenters contended that Midwest Generation's financial hardships were not unforeseen. *See, e.g.*, Tr. at 166. Commenters also did not believe that granting the variance would remedy Midwest Generation's economic difficulties. *See, e.g.*, Tr. at 164.

Some commenters believe that the Board should await the outcome of Midwest Generation's bankruptcy proceedings before granting the company a variance. *See, e.g.*, Tr. at 169, 181.

Concerns were raised regarding Midwest Generation's compliance plan, with commenters requesting that the Board "deny [the company] any flexibility whatsoever and get a scheduled roll out so that all of the dirty plants are taken care of." Tr. at 170; *see also* Tr. at 185. Jerry Mead-Lucero, on behalf of the Pilsen Environmental Rights and Reform Organization, addressed emission offsets from the closing of the Fisk and Crawford Stations, stating that:

trying to use the offsets that are happening to get that part that has shuttered to basically reduce the requirements who meet similar pollution controls on plants in other parts of the state, and that really concerns us. Tr. at 194.

Mr. Mead-Lucero does not believe that “reducing pollution on Chicago, should then lead to people in other communities in Illinois having to breathe in those kinds of pollutants.” *Id.*

WRITTEN PUBLIC COMMENTS

Written Comments Supporting Variance

The Board received 4,201 timely-filed comments in support of Midwest Generation’s variance request. The Board received an additional 18 comments in support of the request after the public comment deadline. These 18 comments grouped together 855 individual requests that the variance be granted.¹⁶

The Board received ten comments from State congressional representatives in support of Midwest Generation’s variance request. These include comments filed by State Representatives Michael Unes, 91st District (PC 4A), Elaine Nekritz, 57th District (PC 6), Lawrence M. Walsh, Jr., 86th District (PC 113), Brandon W. Phelps, 118th District (PC 513), Patrick J. Verschoore, 72nd District (PC 514), Louis Lang, 16th District (PC 535), and State Senators Terry Link, 30th District (PC 530), Pat McGuire, 43rd District (PC 4515), Mike Jacobs, 36th District (PC 4784 and PC 4785).

The Board also received public comments from the Mayors of Bolingbrook (PC 5A), Pekin (PC 518), Joliet (PC 520), Waukegan (PC 4787) and the President of the Village of Minooka (PC 90). Comments were submitted by local alderman (*See, e.g.*, PC 5783 through 5788) and government officials (*See, e.g.*, PC 90, PC 4516, PC 4786). The Board also received comments from various trade and union organizations (*See, e.g.*, PC 95, PC 4788) and many individuals (*See, e.g.*, PC 4, PC 5125) and businesses (*See, e.g.*, PC 8511, submitted late).

Commenters generally discussed the positive economic impact that Midwest Generation has on the state and local economies, whether through its own employees or the companies that it contracts business with. *See, e.g.*, PC 4A. Commenters emphasized Midwest Generation’s intent to emit lower emissions from 2013 through 2016 than it would under the CPS, as well as the company’s intent to meet state-mandated emission targets by the end of 2019. *Id.*

Commenters also brought up “the issue of fundamental fairness,” stating that the Board recently granted a similar variance in Ameren, PCB 12-126 (Sept. 20, 2012), adding that “the major difference is that Midwest Generation’s request is more limited in scope than Ameren’s.” *See, e.g.*, PC 521.

Many individual commenters noted Midwest Generation’s impact on local jobs and stated that “[g]ranting the variance can help sustain the positive impact of the company’s operations on local communities and businesses,” while preserving property tax revenues. *See, e.g.*, PC 462. As described by State Senator Pat McGuire, 43rd District, the temporary relief sought by Midwest Generation would allow the company the flexibility it needs to achieve “long-term commitment to meeting air quality regulations,” “reliable supply of electricity to

¹⁶ *See, e.g.*, PC 8517 (100 commenters) and PC 8526 (5 commenters).

millions of Illinois households,” “continued employment of hundreds of area residents,” and “payment of valuable property taxes.” PC 4515.

Written Comments Opposing Variance

The Board received 4,301 timely-filed comments opposing Midwest Generation’s variance request. The Board received an additional six comments opposing the request after the public comment deadline, consisting of 85 individual commenters.¹⁷

Individual commenters generally requested that the Board “[h]old the company to its previous commitment” and contended that “a variance doesn’t guarantee jobs or that plants will stay open.” PC 4357. Others requested that the Board deny the variance “[i]n order to reduce dangerous pollution and save lives in Illinois.” PC 3008. Some commenters discussed the effect of the emissions from Midwest Generation’s stations on their or their family members’ health. *See, e.g.*, PC 5707, PC 5754.

Commenters also contested Midwest Generation’s compliance plan, stating for example that the company “has provided no clear plan for how it will stay in compliance with the changes they have asked for,” and that the company “[l]ike Ameren, . . . may well abandon operations in the near future.” *See, e.g.*, PC 4756.

Dynegy Midwest Generation, LLC and Dynegy Kendall Energy, LLC

Dynegy’s involvement in Illinois includes seven power generation facilities, nearly 500 full-time employees, annual investments of over \$200 million in local economies, and the capacity to produce approximately 4,300 megawatts of energy for consumers. PC 1 at 2. Dynegy contends that it directly competes with Midwest Generation in the power generation markets. *Id.*

Granting Variance Would Create Unlevel Playing Field. Dynegy contends that Midwest Generation’s argument, that the CPS places it at a competitive disadvantage relative to out-of-state competitors, ignores the fact that an approved petition would impose a material competitive disadvantage on Midwest Generation’s in-state competitors who have not been granted similar relief from emission reduction technology investment obligations. PC 1 at 3-4. Dynegy describes this scenario as an unlevel playing field between power generators in Illinois that have made significant financial investments to comply with Illinois environmental regulations, and Midwest Generation who now seeks to avoid those same commitments and financial investments. *Id.* at 4. Dynegy argues that the Board would be putting it at a competitive disadvantage if the Board were to allow Dynegy’s competitors to avoid meeting their obligations. *Id.* Dynegy also believes that a grant of Midwest Generation’s petition would “chill the business environment in Illinois by sending mixed and unequal signals to businesses

¹⁷ Three of the late-filed public comments grouped together a number of similar letters from multiple individuals. These include PC 8506 (2 commenters), PC 8507 (4 commenters), and PC 8524 (76 commenters).

considering similar investments” and that significant capital-intensive business investments will only continue in a stable regulatory environment. *Id.* Dynegy believes that granting the variance would impose an arbitrary and unreasonable hardship on Midwest Generation’s competitors in Illinois that have worked in good faith with State authorities and made the agreed upon financial investment in pollution controls. *Id.* Dynegy states that approval of Midwest Generation’s petition would “put Dynegy (and other merchant generators), Dynegy’s employees in Illinois, and Dynegy’s local communities in Illinois at risk.” *Id.* at 5.

Midwest Generation Should Not Be Allowed to Renege on CPS Emission Reduction Commitments. Dynegy believes the petition should be denied because Midwest Generation negotiated and agreed to the CPS emission reduction requirements it now seeks to avoid. PC 1 at 5. Dynegy further believes that Midwest Generation has benefited from the flexibility that it previously negotiated and that Midwest Generation should not now be able to avoid the 2015 and 2016 CPS SO₂ emission rates because current market conditions and the company’s financial hardships were not foreseen. *Id.* Dynegy contends that a grant of the variance would delay environmental and health benefits to the citizens of Illinois and break Midwest Generation’s commitment to emission reductions at its sites. *Id.* at 5-6.

Claimed Reductions for Units Shut Down Due to Market Conditions. Dynegy contends that Midwest Generation’s proposal to not operate the Crawford Station in 2013 and 2014 offers little to no benefit to Illinois. PC 1 at 6. Dynegy states that Midwest Generation ceased operation of the Crawford Station in August 2012 and that, while Midwest Generation could legally operate those units through the end of 2014, the units are not operating due to poor market conditions repeatedly cited in the petition. *Id.* Dynegy states that any credit given Midwest Generation for reducing emissions from the Crawford Station in 2013 and 2014 “should be tied to the plant’s anticipated operating levels and not its permitted emission levels or its historic average heat input.” *Id.*

Citizens Groups - PC 2

Citizens Against Ruining the Environment, Environmental Law & Policy Center, Natural Resources Defense Council, Respiratory Health Association, and Sierra Club (collectively “Citizens Groups”) collectively filed a public comment objecting to the grant of Midwest Generation’s variance petition.

Midwest Generation Should Be Required To Comply with the Standards It Negotiated, Opted Into, and Benefitted From. The Citizens Groups argue that the CPS Midwest Generation is attempting to avoid was part of a “package deal” negotiated as part of its 2007 CPS agreement, and which Midwest Generation ultimately proposed, agreed to, opted into, and benefitted from. PC 2 at 3. The Citizens Groups assert that in exchange for more lenient mercury limits, Midwest Generation negotiated its current CPS requirements for SO₂ and NO_x in the 2007 CPS agreement. *Id.* Having benefitted from the lower mercury limits for years, Midwest Generation now wants to avoid compliance with the negotiated SO₂ and NO_x limits. *Id.* Under these conditions, the Citizens Groups argue that granting Midwest Generation’s variance request would thereby constitute a breach of the negotiated CPS agreement, undermine the entire settlement and negotiation process, and betray public trust. *Id.* at 4.

Midwest Generation Presented No Assurances That It Will be Able to Comply with Schedule Proposed under Variance. The Citizens Groups maintain that it is unlikely the financial problems cited by Midwest Generation as the reason for variance will be sufficiently abated to allow new capital investments in 2015 and 2016. PC 2 at 5. The Citizens Groups remind the Board that Midwest Generation predicts that an increase in natural gas and energy costs, coupled with a decrease in coal transportation costs, will help Midwest Generation's financial situation and enable them to follow their proposed compliance schedule. *Id.* at 6. However, the Citizens Groups cite U.S. Energy Information Administration data to argue that, contrary to Midwest Generation's predictions, continued increases in natural gas production will likely not increase energy costs. *Id.* Additionally, the Citizens Groups argue Midwest Generation has provided no significant evidence to suggest that its highly-priced coal transportation contract will be renegotiated to a lower rate. *Id.* The Citizens Groups also argue that, in light of the variance Midwest Generation was granted just four months prior to its current variance request, the company has made no indication that it will not resort to seeking another variance in the future. *Id.* at 6-7

Board Should Defer Decision on Variance until Resolution of Midwest Generation's Bankruptcy Proceeding. The Citizens Groups contend that granting the variance before the bankruptcy proceeding is completed would be premature for various reasons. PC 2 at 7. They argue that bankruptcy status should not be a valid excuse for noncompliance with the environmental standards which Midwest Generation has negotiated and opted into. *Id.* The Citizens Groups maintain that in a bankruptcy proceeding, a debtor must still comply with applicable state and federal environmental laws. *Id.* Additionally, the Citizens Groups urge the Board to rely on the bankruptcy proceeding to determine the seriousness of Midwest Generation's financial status, rather than basing its decision on Midwest Generation's own financial self-assessment. *Id.* at 7-8. The Citizens Groups also state that the bankruptcy proceeding may result in an ownership change in the units covered by the variance and that it is not possible to determine the new owner's financial ability to fund pollution control equipment installations until resolution of that proceeding. *Id.* at 7. Finally, the Citizens Groups assert that it is traditional in bankruptcy proceedings to stay any actions that may affect or interfere with the debtor's property. *Id.* at 8. In this case, the Citizens Groups view the granting of a variance, which affects Midwest Generation's capital investments and procurement of pollution control equipment, as a direct interference with Midwest Generation's property. *Id.*

Health Professionals

The Board also received 38 separate public comments from healthcare professionals requesting that the Board deny the variance request.¹⁸ These commenters praised the CPS' ability to protect human health and the environment and raised concerns over Midwest Generation's "present effort to weaken the CPS." PC 5752 at 1. The commenters discussed health and environmental effects caused by SO₂, NO_x, mercury, and PM_{2.5} released by coal-fired

¹⁸ One of these public comments, PC 5752, was signed by 44 individuals, some of whom also submitted their own separate public comments.

power plants. *Id.* The commenters believe that exposure to these emissions can result in developmental delays in children, respiratory symptoms, reproductive impacts, premature mortality, cardiovascular effects, and acid rain. *Id.*

The commenters cite a 2010 report by the National Research Council that stated, in 2005 alone:

annual health and related damages from particulate, NO_x, and SO₂ cost the public \$62 billion The vast majority (\$53 billion) of these costs were due to health damages associated with the transformation of SO₂ into PM_{2.5}. PC 5752 at 1-2.

The commenters contend that the CPS “is designed to require substantial reductions in the emission rates of SO₂, NO_x, and mercury” and that these reductions “will allow for substantial gains in the public health of our state and surrounding regions,” particularly areas not meeting federal air quality standards. PC 5752 at 2. The commenters believe that by maintaining the present CPS emission rate requirements for each of the pollutants, the Board “will ensure that the health improvements behind the spirit of the law remain intact.” *Id.*

Citizens Groups - PC 5728

The Citizens Groups filed post-hearing comments requesting that the Board deny the variance petition, reiterating earlier concerns and raising new ones. PC 5728. As reasons for denial, the Citizens Groups state that (1) Midwest Generation has not provided a detailed compliance plan; (2) Midwest Generation seeks permanent rather than temporary relief; and (3) the variance would have a negative environmental and health impact.

Compliance Plan. The Citizens Groups argued that Midwest Generation’s proposal lacks a sufficient compliance plan. PC 5728 at 2; Tr. at 148-150. Citing previous cases before the Board, the Citizens Groups stated that the Board has maintained that a “firm and adequate” compliance plan is the “essence of a variance.” PC5728 at 2, *citing Metropolitan Sanitary District of Greater Chicago v. IEPA*, PCB 71-183, slip op. at 3-38 to 3-59 (Nov. 11, 1971).¹⁹ The Citizens Groups also recap variance requests that were denied by the Board because they lacked detailed compliance plans. In comparison, the Citizens Groups referred to the conditions assigned to the variance granted in PCB 12-126 for AER where the Board found AER’s compliance plan must include “specific dates to demonstrate progress toward achieving compliance with the applicable requirements.” PC 5728 at 3-4, *citing Ameren*, PCB 12-126, slip op. at 66 (Sept. 20, 2012). The Citizens Groups asserted the compliance plan in Midwest Generation’s petition does not provide the level of detail equivalent to that required of AER in PCB 12-126. Given the uncertainty surrounding Midwest Generation’s fleet under bankruptcy, the Citizens Groups argued that a detailed compliance plan is particularly necessary. PC5728 at

¹⁹ The full excerpt reads: “The essence of a variance, as we have pointed out before (e.g., *Swords v. EPA*, #70-6, Sept. 2, 1970; *Mt. Carmel Public Utility Co. v. EPA*, #71-15, April 14, is a firm and adequate program for achieving compliance with the regulations in the shortest practicable time.” *Metropolitan Sanitary District*, PCB 71-183, slip op. at 3-58 to 3-59.

4-6. The Citizens Groups argued that because Midwest Generation is seeking relief from the CPS, the company's contention that it should continue to be afforded the flexibility offered by the CPS is without merit. PC5728 at 4.

The Citizens Groups assert that Midwest Generation's plans to meet the proposed 2015 and 2016 mass emission limits at the proposed rate of 0.38 lbs/mmBtu are unclear. The Citizens Groups assert that "[t]his heat input reduction [of about 65 million mmBtu from 2013 levels] would be the equivalent of closing a quarter of [Midwest Generation's] fleet." PC 5728 at 5, referring to Hrg. Exh. 10.

In looking at options under the bankruptcy, the Citizens Groups suggested a sale of assets could provide new capital that could be used to install pollution controls on the schedule required by the CPS. The Citizens Groups cited to a statement by Midwest Generation's President Doug McFarlan in a publication: "As we look to restructure our debt, selling assets is always an option." PC 5728 at 6, Exh. A, *citing* "Midwest Generation Ponders Retrofit vs. Retire Decision for Four Illinois Merchant Generators," Industrial Info Resources (Oct. 2, 2012). PC 5728 at 5-6.

Permanent Relief. The Citizens Groups argued that Midwest Generation's petition for variance should be denied because it seeks permanent rather than temporary relief. The Citizens Groups stated that with the variance, Midwest Generation would never comply with the annual emission rates for which it sought a variance, but rather the 2015 and 2016 CPS rates would be replaced completely by the alternative emission rates under the variance before Midwest Generation would resume compliance with the 2017 CPS rates. The Citizens Groups argue that this would be permanent, not temporary relief and cannot be accomplished through a variance proceeding. The Citizens Groups cite a prior Board decision in which the Board denied a request for variance because the petitioners did not plan to comply with the regulation from which they sought a variance, but rather replace the requirements completely by the proposed variance. The Board found that the "request is not a variance as contemplated either in the Act or by the case law implementing Title IX of the Act (415 ILCS 5/35-38.)" PC 5728 at 7-8, *citing* Ameren Energy Generating Co., Ameren Energy Resources Generating Co, and Electric Energy, Inc. v. IEPA, PCB 09-21 (Jan. 22, 2009).

Although Midwest Generation offered to comply with the 2015 and 2016 CPS rates for two weeks each in January 2017, the Citizens Groups argue that the CPS requires annual average emissions rates. The Citizens Groups reasoned that using three different annual average emission rates in one calendar year would render the CPS 2015 and 2016 rates meaningless. Instead of a variance, the Citizens Groups suggested that Midwest Generation should pursue permanent regulatory relief. PC 5728 at 8.

Negative Health and Environmental Impact. The Citizens Groups assert that the proposed variance would actually have a negative environmental impact. The Citizens Groups state that "[t]he variance would allow [Midwest Generation] to actually increase its SO₂ emissions in the short term, and to continue to cause and contribute to existing State air quality problems." PC 5728 at 9. While Midwest Generation used an average annual heat input based on the years 2008-2011 to calculate an environmental benefit, the Citizens Groups stated that

Midwest Generation's calculations are unreasonable because they exclude emissions from the year 2012. The Citizens Groups note that the Fisk and Crawford plants did not operate the full year in 2012, and should not be expected to operate in 2013 or thereafter or be regarded as providing any environmental benefit for not operating. The Citizens Groups provided photos showing the stack being dismantled at the Crawford plant and argued that Midwest Generation cannot claim that the plant can be legally operated. PC 5728 at 11-12.

The Citizens Groups state that the 2012 SO₂ emissions of 56,395 tons are less than the 57,000 tons that would be allowed in 2013 under the variance. PC 5728 at 10-11, *citing* Pet. Exh. 3 at 5. The Citizens Groups make this point in response to Midwest Generation's statement that "[i]n no year during the term of the variance would emissions increase over the previous year..." PC 5728 at 13, *citing* Pet. at 13. The Citizens Groups argue that by excluding 2012, Midwest Generation has inflated its base case "to show an artificial decrease in SO₂ emissions under the variance." PC 5728 at 10-11.

To demonstrate a negative environmental impact, the Citizens Groups compared Midwest Generation's 2013 and 2014 mass emission limits proposed under the variance to the mass emissions from 2012 instead of using the average annual heat input from 2008-2011 that Midwest Generation used to calculate the baseline CPS emissions for those years. PC 5728 at 10-11. The Citizens Groups stated,

When measured against 2012 SO₂ emissions of 56,395 tons, [Midwest Generation's] proposed 2013 and 2014 mass emission limits lead to a combined reduction of only 1,795 tons over 2013 and 2014. This is far less than the 12,047 additional tons of SO₂ that [Midwest Generation] itself calculates would be emitted during 2015 and 2016. Thus, the variance would have a negative environmental impact. PC 5728 at 12.

The Citizens Groups found that Midwest Generation's testimony of Dr. Fraiser "inappropriately minimized the legal requirement for the NAAQS to protect vulnerable populations." PC 5728 at 16. The Citizens Groups state the NAAQS is designed to protect the health of sensitive subpopulations as well as the general population. PC 5728 at 16.

The Citizens Groups also argue that Midwest Generation did not address the effects of PM_{2.5} as a by-product of SO₂ emissions in the atmosphere. The Citizens Groups cite to a 2005 study attributing 50% of the PM_{2.5} formation in central Illinois to sulfur or SO₂. The Citizens Groups also cite to a 2009 USEPA assessment linking short- and long-term exposures to PM_{2.5} with cardiovascular events (*e.g.*, heart attacks) and mortality in a causal relationship and with respiratory illness (*e.g.*, asthma attacks and chronic obstructive pulmonary disease (COPD) episodes) in a likely causal relationship. PC 5728 at 13-15. According to the Citizens Groups, another study shows that "[e]ven incremental increases in PM_{2.5} can result in additional asthma attacks, missed school and work days, and avoidable [emergency room] visits." PC 5728 at 15.

Looking to the new primary one-hour SO₂ NAAQS, the Citizens Groups asserted that the Board "should not grant the variance because it would increase the risk of SO₂ harming public health when public health is being harmed as a result of ongoing violations of the SO₂ one-hour

NAAQS.” PC 5728 at 14. The Citizens Groups state that the CPS requirements were developed under an older, less stringent SO₂ air quality standard, consequently allowing Midwest Generation to average SO₂ reductions over large air quality regions. Under the new 1-hour SO₂ standard, the Citizens Groups allege there are also new public health concerns over air quality where Midwest Generation’s Powerton and Will County facilities are located. Based on the Agency’s 2011 Annual Air Quality Report, the Citizens Groups state that SO₂ monitoring data indicated violations of the one-hour SO₂ NAAQS in Pekin and Lemont. *Id.* at 18.

The Citizens Groups filed a copy of the Agency’s “Technical Support Document: Recommended Nonattainment Designations in Illinois for the 2010 Revised Primary 1-Hour SO₂ National Ambient Air Quality Standard” dated June 2, 2011. PC5728 Exh. F. In the document, the Citizens Groups note that the Agency identified Midwest Generation’s Will County and Powerton plants among the likely sources contributing to the violations in the vicinity of Pekin and Lemont, and that the Agency proposed that townships in proximity to Pekin and Lemont be designated as nonattainment with the new 1-hour SO₂ NAAQS. PC 5728 at 19.

The Citizens Groups also filed a copy of USEPA’s response to the Agency’s recommendation for SO₂ designations under the new 1-hour standard dated February 6, 2013. PC5728 Exh. G. The Citizens Groups noted that USEPA also identified Midwest Generation’s Will County and Powerton plants among the likely sources contributing to the violations in the vicinity of Pekin and Lemont. PC 5728 at 19.

Referring to facility-specific modeling of the emissions from Midwest Generation, the Citizens Groups requested “IPCBA to incorporate Sierra Club’s Complaint [in PCB 13-27 Sierra Club v. Midwest Generation] and the attachments to its Complaint into the record of this variance proceeding...” PC 5728 at 21.

The Citizens Groups conclude that the Board “should not grant a variance based on new evidence that public health is already being harmed as a result of ongoing violations of federal air quality standards to which Midwest Generation is a prime contributor.” PC 5728 at 17.

Midwest Generation’s Reply to Citizens’ Groups PC 5728

The hearing officer’s order on post-hearing briefing allowed for opening and reply briefs from Midwest Generation and a response brief from the Agency. The Agency did not file a brief in response to Midwest Generation’s opening brief. Midwest Generation did, however, file a brief in reply to the post-hearing public comment of the Citizens Groups (PC 5728). Midwest Generation states that its opening brief included “an enhanced compliance plan,” which was presented to the Agency, whose “comments were incorporated prior to submittal to the Board.” Reply Br. at 1. Midwest Generation states that PC 5728 was served on the company only after its opening brief was filed. Further, according to Midwest Generation, PC 5728 includes “new arguments raised for the first time” and warrants “a brief reply to avoid any confusion.” *Id.* The Board has not received any objections to Midwest Generation’s reply. The Board allows the filing in the interests of having more fully developed arguments to consider.

Temporary Relief. Midwest Generation contends that the Citizens Groups are describing the company’s requested relief as permanent relief from the CPS because Midwest Generation did not request that the 2015 and 2016 system rates go into effect in 2017 or after. Reply Br. at 2. Midwest Generation argues that its requested relief, however, is consistent with the variance granted by the Board in Ameren, PCB 12-126 (Sept. 20, 2012). *Id.* The company argues that, in that case, the Board granted relief to AER by subsuming an interim rate with a more stringent end rate at the end of the term of the variance.²⁰ *Id.* at 3. Midwest Generation contends that the Citizens Groups ignore the Board decision in Ameren, PCB 12-126 (Sept. 20, 2012) to instead focus on an older Board decision, Ameren, PCB 09-21 (Jan. 22, 2009). Reply Br. at 3. Midwest Generation describes the Board’s decision in that case as denying the relief on the grounds that AER sought permanent relief from a standard. *Id.*

Midwest Generation further describes the Citizens Groups’ position as “an illogical result.” Reply Br. at 4. Midwest Generation believes that it selected “the most stringent” compliance option by requesting to come into compliance with CPS rates beginning immediately after the period of the variance in 2017. *Id.* Midwest Generation describes the Citizens Groups’ position as “the least stringent approach,” *i.e.*, to impose the 2015 and 2016 rates for one full year each after the period of the variance. *Id.* The company describes this position as applying the 2015 rate in 2017 and the 2016 rate in 2018, which in turn would shift the 2017 and 2018 rates to 2019 and 2020, respectively, and deferring the 2019 rate until 2021. *Id.* Midwest Generation contends that the Citizens Groups’ “interpretation of ‘temporary’” would take the longest period of time for the company to return to compliance with CPS rates, which the company contends is “illogical and inconsistent with Board requirements.” *Id.*

“Enhanced” Compliance Plan. Midwest Generation acknowledges the Citizens Groups’ criticism of the company’s original compliance plan proposed in the petition. Reply Br. at 4. However, Midwest Generation notes that it has since proposed additions to the plan in response to Board questions on January 18, 2013, and claims to have “enhanced” the compliance plan in the company’s post-hearing brief. *Id.* at 5. Midwest Generation states that this amended compliance plan was reviewed with the Agency and incorporated the Agency’s comments. *Id.*

The company addresses two points raised by the Citizens Groups in their public comment. First, Midwest Generation describes the Citizens Groups’ comment as stating that the company does not explain how it will be able to achieve the 2015 and 2016 proposed mass emission limits in light of the substantial requisite reduction in annual heat input. Reply Br. at 5. Midwest Generation believes that it adequately explained that the company would meet these limits by undertaking one or more of the following actions: over-comply with the emission rate, curtail generation, or shut down units. *Id.*

²⁰ In Ameren, PCB 12-126 (Sept. 20, 2012), AER sought system-wide relief for its 21 EGUs from two standards: a 0.25 lb/mmBtu SO₂ rate that applies in 2015 and 2016; and a 0.23 lb/mmBtu SO₂ rate that applies in 2017 and thereafter. Ameren, PCB 12-126, slip op. at 7 (Sept. 20, 2012). AER proposed to come into compliance with the 0.25 rate beginning January 1, 2020, and with the 0.23 rate beginning January 15, 2020. The Board ultimately granted relief from both rates through December 31, 2019, and ordered that AER comply with the more stringent SO₂ rate of 0.23 beginning January 1, 2020. Reply Br. at 2-3.

Second, Midwest Generation notes the Citizens Groups' speculation that the plants may be sold to new owners that can afford to install pollution controls on the required CPS schedule. Reply Br. at 5. However, Midwest Generation contends that this approach is grounded in speculation and only relates to one possible future scenario. *Id.* at 5-6. The company states that there is no time for this "wait-and-see" approach because, absent a variance, it must begin making "irrevocable decisions" initiating control work and expenditures necessary to comply with the 2015 and 2016 CPS rates by April, 2013. *Id.*

Not Adversely Impacting Human Health or the Environment. Midwest Generation contends that, while the Citizens Groups' assail the company's "net environmental benefit" calculation, the Agency has stated that these calculated credits are "quantifiable and creditable." Reply Br. at 6, *citing* Agency Rec. at 8. Midwest Generation also cites the Agency's position that the company's calculation of "net environmental benefit in SO₂ emissions over the term of the variance is consistent with the method utilized in similar previous variance requests." Reply Br. at 6-7, quoting Agency Rec. at 8.

Midwest Generation next contends that the Citizens Groups incorrectly criticize the hearing testimony of Dr. Fraiser and notes that the Citizens Groups "offer no expert of their own." Reply Br. at 7. The company believes that the Citizens Groups' assertion that Dr. Fraiser focuses solely on SO₂ emissions while ignoring fine particulate matter is misplaced. *Id.* Midwest Generation quotes Dr. Fraiser's testimony that "the fact that a power plant . . . emits sulfur dioxide, does not necessarily mean that adverse health effects will occur," and that with a

net decrease in SO₂ emissions would also come a corresponding net health benefit, if you assume that the emissions from the plant are capable of causing health effects in the first place [T]he variance will also result in reductions in emissions of a variety of other air pollutants as well . . . [which] would be expected to result in the avoidance of potential health effects, in addition to the sulfur dioxide reductions. *Id.*, *citing* Tr. at 121, 124-125.

Midwest Generation states that these "other air pollutants" include particulate matter reductions, and notes that the Agency did not dispute Dr. Fraiser's conclusions. Reply Br. at 7.

Midwest Generation addresses the Citizens Groups' assertion that "all of [Midwest Generation's] facilities contribute to non-attainment of the 1-hr NAAQS in the regions in which they operate." Reply Br. at 7, *citing* PC 5728 at 20. Midwest Generation notes that the Citizens Groups incorporate into this proceeding the allegations they have raised in a separate proceeding before the Board which has been stayed. Reply Br. at 7. Midwest Generation does not believe that this variance proceeding is "the proper time [or] place to answer the erroneous allegations in another matter." *Id.* at 8. However, the company asserts that the Citizens Groups' allegations "are just assertions They are untested at this point, and they do not establish anything but the [Citizens Groups'] views." *Id.* Midwest Generation also believes that these assertions are inconsistent with the Agency's testimony in this proceeding. *Id.*, *citing* Tr. at 136-137.

BOARD DISCUSSION

“To the extent consistent with applicable provisions of . . . the Clean Air Act as amended in 1977 . . . and regulations pursuant thereto,” the Act authorizes the Board to “grant individual variances beyond the limitations prescribed in this Act, whenever it is found, upon presentation of adequate proof, that compliance with any rule, regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship.” 415 ILCS 5/35, 35(a) (2010). “In granting a variance the Board may impose such conditions as the policies of this Act may require.” 415 ILCS 5/36(a) (2010). Any variance granted:

shall be granted for such period of time, not exceeding five years, as shall be specified by the Board at the time of the grant of such variance, and upon the condition that the person who receives such variance shall make such periodic progress reports as the Board shall specify. 415 ILCS 5/36(b) (2010).

This part of the opinion has the following main sections: (1) the scope of, and threshold issues with, Midwest Generation’s requested variance; (2) compliance alternatives; (3) the hardship to Midwest Generation from denying requested variance; (4) the environmental impact of granting requested variance; (5) weighing Midwest Generation’s hardship from a variance denial against the environmental impact from a variance grant; (6) whether the variance can be granted consistent with federal law; and (7) conditions of the variance, including the sufficiency of Midwest Generation’s revised compliance plan.

Requested Variance’s Scope and Threshold Issues

Relief from CPS and Waukegan Order

Midwest Generation requests a variance from two regulations and one Board order. Specifically, Midwest Generation seeks relief from the CPS requirements to comply with the CPS group average annual SO₂ emission rate in 2015 and 2016 (35 Ill. Adm. Code 225.295(b)) and to install FGD equipment on or permanently shut down Waukegan Unit 8 by December 31, 2014 (35 Ill. Adm. Code 225.296(a)(2)). Midwest Generation asks that the relief from Section 225.295(b) last from January 1, 2015 through December 31, 2016, and that the relief from Section 225.296(a)(2) last from January 1, 2015 through May 31, 2015. Additionally, Midwest Generation seeks relief from a condition of a variance granted by the Board on August 23, 2012, in PCB 12-121, *i.e.*, Condition 1(a) of the Waukegan Order, which requires compliance with the Section 225.295(b) emission rates during the term of that variance.

No Relief Necessary from Waukegan Order

Midwest Generation requests that the Board grant a variance from Condition 1(a) of the Waukegan Order, adjust Condition 1(a), or find that the variance requested here supersedes Condition 1(a). Pet. at 1-2. Condition 1(a) of the Waukegan Order requires that “[d]uring the period of the variance,” Midwest Generation “comply with the system-wide SO₂ emissions rate set forth in Section 225.295(b).” Waukegan Order, slip op. at 20. The period of the variance granted in the Waukegan Order is “December 31, 2013 until December 31, 2014.” *Id.* As

Midwest Generation presently seeks no relief from Section 225.295(b) of the CPS for 2013 or 2014, the Board finds that there is no need to grant a variance from or modify Condition 1(a) of the Waukegan Order. The Board therefore denies as unnecessary this portion of Midwest Generation's petition for variance relief.

CPS "Agreement"

The Citizens Groups raised concern over Midwest Generation's "agreement" to abide by the CPS, suggesting that the company cannot now "breach the agreement." PC 2 at 4 ("[t]he final CPS . . . represented a laboriously-negotiated agreement among diverse parties"); *see also* PC 1 at 2, 5 (Dynergy argued that the Board "should not now reopen Midwest Gen's negotiated agreement" or allow Midwest Generation to "renege" on its CPS commitments). The Board recently ruled on a similar issue with respect to AER and the MPS in Ameren, PCB 12-126 (Sept. 20, 2012). There, the Board found that the MPS is a rule and that the Act authorizes the Board to grant variances from rules. *See Ameren*, PCB 12-126, slip op. at 48. The same analysis applies to the CPS, from which Midwest Generation has received a variance. *See Waukegan Order*, slip op. at 20-21.

Relief from "Interim" Emission Rates of Section 225.295(b)

Section 225.295(b) reads as follows:

Emissions Standards for SO₂. Beginning in calendar year 2013 and continuing in each calendar year thereafter, the CPS group must comply with the applicable CPS group average annual SO₂ emissions rate listed as follows:

| year | lbs/mmBtu |
|------|-----------|
| 2013 | 0.44 |
| 2014 | 0.41 |
| 2015 | 0.28 |
| 2016 | 0.195 |
| 2017 | 0.15 |
| 2018 | 0.13 |
| 2019 | 0.11 |

35 Ill. Adm. Code 225.295(b).

Section 225.295(b) therefore requires that CPS group average SO₂ emission rates decline over time in annual increments from 2013 through 2019. Midwest Generation's proposed variance would adjust these average annual SO₂ emission rates during 2015 and 2016, requiring that the company return to compliance in 2017.

The Citizens Groups argue that the requested relief would provide permanent relief from the CPS because Midwest Generation does not propose any time period during which the 2015 and 2016 SO₂ system-wide rates would ever be in effect. PC 5728 at 7-8. Instead of a variance,

the Citizens Groups suggest that Midwest Generation should pursue permanent regulatory relief. The Citizens Groups cite a prior Board decision in which the Board denied a request for variance, Ameren Energy Generating, PCB 09-21 (Jan. 22, 2009). The Board found that petitioners did not plan to comply with the regulation from which they sought relief, but rather replace the requirements of the regulation completely with the proposed variance. The Board ruled that the “request is not a variance as contemplated either in the Act or by the case law implementing Title IX of the Act (415 ILCS 5/35-38.)” PC 5728 at 7-8, quoting Ameren Energy Generating, PCB 09-21, slip op. at 15.

Midwest Generation suggests, in the alternative, that it could comply with the interim CPS 2015 and 2016 annual emission rates for two weeks each during January 2017. Pet. at 53, n.36. The Citizens Groups state, however, that the CPS requires *annual* average emission rates and that compliance is based on *annual* emissions data. If Midwest Generation were to be subject to three different annual average emission rates in one calendar year, the Citizens Groups argue that the CPS 2015 and 2016 annual emission rates would be rendered meaningless. PC 5728 at 8, n.2.

Midwest Generation replies by citing a more recent Board decision, Ameren, PCB 12-126 (Sept. 20, 2012), in which the Board determined that a separate period for compliance with an interim regulatory emission rate before compliance with the more stringent regulatory rate at the end of the variance was unnecessary. Reply Br. at 2. Nonetheless, Midwest Generation, in its revised compliance plan, proposes the option of staggering dates for compliance with Section 225.295(b), if the Board believes that the CPS emission rates for 2015 and 2016 must be in effect for some period of time. If so, instead of immediate compliance with the CPS rate of 0.15 lb/mmBtu on January 1, 2017, Midwest Generation would comply with the CPS system-wide annual SO₂ emission rates on the following schedule:

| | |
|------------------------|----------------|
| Jan. 1 - 15, 2017 | 0.28 lb/mmBtu |
| Jan. 16 - 31, 2017 | 0.195 lb/mmBtu |
| Feb. 1 – Dec. 31, 2017 | 0.15 lb/mmBtu |

Pet. at 53; Post Br. Exh. A at 3; Post Br. Exh. B at 3.

Midwest Generation maintains that if compliance with the CPS interim annual rates were required for a full year at the end of 2016, such that the 2015 rate would apply in 2017 and the 2016 rate would apply in 2018 and so on, the 2019 rate would be deferred until 2021. Midwest Generation characterizes this as the *least* stringent approach. Instead, Midwest Generation states that the petition relies upon the *most* stringent option by proposing the quickest return to the applicable CPS rates following the variance period (*i.e.*, apply 2017 CPS rate as of Jan. 1, 2017). Reply Br. at 3-4.

The Board finds that Midwest Generation’s proposed variance is in accord with the Board’s most recent precedent on variance relief from so-called “interim” emission rates. In Ameren, PCB 12-126 (Sept. 20, 2012), AER sought variance relief from two provisions of the Multi-Pollutant Standards (MPS). The first MPS provision was Section 225.233(e)(3)(C)(iii), the only requirement of which is that AER meet an overall SO₂ annual emission rate of 0.25

lb/mmBtu in 2015 and 2016. See 35 Ill. Adm. Code 225.233(e)(3)(C)(iii). The second MPS provision was Section 225.233(e)(3)(C)(iv), the only requirement of which is that AER meet an overall SO₂ annual emission rate of 0.23 lb/mmBtu in 2017 and thereafter. See 35 Ill. Adm. Code 225.233(e)(3)(C)(iv).

AER did not seek variance relief from MPS Section 225.233(e)(3)(C)(ii), the only requirement of which is that AER meet an overall SO₂ annual emission rate of 0.43 lb/mmBtu in 2014. See 35 Ill. Adm. Code 225.233(e)(3)(C)(ii). Under these MPS provisions, the 0.25 lb/mmBtu rate applies in the “interim” (*i.e.*, 2015 and 2016) between the 0.43 lb/mmBtu rate (*i.e.*, 2014) and the 0.23 lb/mmBtu rate (*i.e.*, 2017 and thereafter).

The Board granted AER variance relief from the 0.25 and 0.23 lb/mmBtu rates, subject to conditions. Specifically, conditions of the variance require AER to comply with an overall SO₂ annual emission rate of 0.35 lb/mmBtu from 2013 through 2019 (*i.e.*, a step-down from the 2014 MPS rate), and an overall SO₂ annual emission rate of 0.23 lb/mmBtu (*i.e.*, the 2017 MPS rate) in 2020 and thereafter. Accordingly, the Board granted the variance despite the fact that the 2015 and 2016 emission rate of 0.25 lb/mmBtu in Section 225.233(e)(3)(C)(iii) is never applied to AER. The Board did not find it necessary in Ameren, PCB 12-126, that the interim emission rate of 0.25 lb/mmBtu be applicable for some period of time after the variance (*i.e.*, in 2020), which would only have delayed requiring AER to meet the more stringent MPS rate of 0.23 lb/mmBtu in Section 225.233(e)(3)(C)(iv).

Likewise here, the Section 225.295(b) emission rates for 2015 (*i.e.*, 0.28 lb/mmBtu) and 2016 (*i.e.*, 0.195 lb/mmBtu) would not be applied to Midwest Generation under the variance petition. However, Midwest Generation seeks no relief from the Section 225.295(b) emission rate for 2013 (*i.e.*, 0.44 lb/mmBtu) or 2014 (*i.e.*, 0.41 lb/mmBtu). The proposed variance rate of 0.38 lb/mmBtu would apply to Midwest Generation in 2015 and 2016 and is more stringent than (*i.e.*, is a step-down from) the CPS rates for 2013 and 2014. In 2017, Midwest Generation would have to comply with the Section 225.295(b) emission rate for 2017 (*i.e.*, 0.15 lb/mmBtu).

The Board finds that Midwest Generation’s proposed approach would reduce SO₂ emissions over time and provide only temporary relief from CPS emission rates, as the Board in Ameren, PCB 12-126 granted a variance that would reduce SO₂ emissions over time and provide only temporary relief from MPS emission rates. Further, requiring an annual rate of 0.15 in 2017 is more stringent than requiring 0.28 in 2017 and 0.195 in 2018, and not requiring 0.15 until 2019.

Alternatives Considered for Timely Compliance with CPS

The Board’s procedural rules require that a variance petition describe “the efforts that would be necessary for the petitioner to achieve immediate compliance with the regulation, requirement, or Board order at issue,” including costs and availability of alternate methods of compliance and “the comparative factors leading to the selection of the control program proposed for compliance.” 35 Ill. Adm. Code 104.204(d).

Midwest Generation plans to comply with CPS SO₂ emission rates in 2013 and 2014, and in 2017 and thereafter, by firing ultra-low sulfur coal throughout its operating coal-fired fleet and installing Trona injection systems for flue gas desulfurization at some units. Hrg. Exh. 5. Trona installation has begun at Powerton Unit 6, the complete installation of which, when combined with using ultra-low sulfur coal, is expected to result in compliance with 2013 and 2014 CPS SO₂ emission rates. Midwest Generation anticipates incurring about \$230 million in 2013 and 2014 on Trona and related ESP controls at Powerton Unit 6 and Waukegan Unit 7, and continued engineering and procurement of long lead material for controls on other units.

However, for the company's fleet to comply with CPS SO₂ emission rates in 2015 and 2016 without dramatically curtailing generation, another roughly \$210 million would need to be incurred in 2013 and 2014 for Trona installation and related ESP upgrades at several additional units, likely including Powerton Unit 5, Waukegan Unit 8, and Joliet Unit 7 or 8. Midwest Generation seeks additional time to perform this further control work through the variance petition.

Midwest Generation considered numerous ways to try to comply with CPS SO₂ emission rates in 2015 and 2016, but none were considered viable. Pet. at 27-28; Hrg. Exh. 5 at 5-6, 9-10; Resp. at 14-16. First, installing other forms of dry scrubbing, which requires adding baghouses, would cost at least three times more than Trona and take longer to implement, at least 2.5 years to design and install. Second, wet scrubbers would cost more, take longer to install, and not be an appropriate control technology for the coal that Midwest Generation is under contract to buy. Third, converting one or more units to natural gas would not be economically viable because none of the coal-fired stations, except Crawford and Fisk, has a sufficient natural gas supply and none of the units, if converted, would be economically competitive with either natural gas turbines or comparable coal-fired boilers.

Fourth, curtailing generation at the coal-fired units that would not have Trona injection systems in 2015 and 2016 (*i.e.*, all but Powerton Unit 6 and Waukegan Unit 7) would require drastic curtailment (about 75% in 2016) and put the company at serious risk given the corresponding extreme reduction in revenue. Fifth, Midwest Generation is using ultra-low sulfur coal and has not identified an alternate coal supply that would enable the company to meet the 2015 and 2016 CPS SO₂ rates without installing Trona on additional units. Moreover, installing FGD equipment, such as Trona, is eventually required by the CPS absent permanent shut down. See 35 Ill. Adm. Code 225.296(a), (b). Sixth, when asked by the Board, Midwest Generation confirmed that there are no operational measures not already being undertaken to optimize SO₂ emission reductions.

Seventh and finally, the Citizens Groups quote Midwest Generation's President, Doug McFarlan, from a publication: "As we look to restructure our debt, selling assets is always an option." PC 5728 at 6, Exh. A, *citing* "Midwest Generation Ponders Retrofit vs. Retire Decision for Four Illinois Merchant Generators," Industrial Info Resources (Oct. 2, 2012). The Citizens Groups suggest that in bankruptcy, a sale of assets could provide new capital that in turn could be used to install pollution controls. PC 5728 at 5-6. Midwest Generation replies that such an approach is only speculative, but what is certain is that the company must begin making irrevocable decisions by about April 2013 to initiate work and incur expenses necessary to meet

the CPS. Midwest Generation maintains that “[t]here simply is no more time to wait.” Reply Br. at 6.

The Board finds that Midwest Generation has adequately addressed alternatives for complying with the current CPS requirements. On this record, the Board agrees with Midwest Generation that none of these alternatives presents a feasible means for the company to comply with CPS SO₂ emission rates in 2015 and 2016. Midwest Generation’s proposes Trona FGD installations, ESP upgrades, and ultra-low sulfur coal usage to allow the company to stagger its capital investments over time in the face of the deterioration of its financial condition and the electricity market, as discussed below. Were the Board to delay its decision on this variance petition to see if asset sales unfold in the bankruptcy proceeding, the Board would fail to meet its statutory decision deadline, which would result in the requested variance being issued by operation of law for one year. *See* 415 ILCS 5/38(a) (2010).

Hardship to Midwest Generation from Denying Variance

Midwest Generation claims that it needs more time to secure financing for the roughly \$210 million in costs for work necessary to comply with CPS SO₂ emission rates and control requirements. Midwest Generation explains that it faces significant cash flow loss due to unexpected and significantly declining energy prices (fallen 45% between 2008 & 2012) and capacity revenues (fallen 85 % in 2013 from 2010 & 2011). Midwest Generation had a net income of \$87 million during the first three quarters of 2011, but a net loss of \$63 million for that period in 2012, hindering the company’s ability to secure financing. This financial condition has been exacerbated by higher costs for low sulfur coal (60% higher than 2008) and the debt of its parent company, EME (*e.g.*, \$500 million in unsecured notes mature in June 2013). Midwest Generation and EME are now in Chapter 11 bankruptcy. The company also asserts that the deferral of federal requirements (CAIR, CAMR, CSAPR) due to court challenges has created an uneven playing field with out-of-state competitors that are neither subject to a deregulated energy market as in Illinois (*i.e.*, they can recover control costs through regulated rates) nor subject to air pollution regulations as stringent as those of Illinois.

These circumstances, according to Midwest Generation, were not and could not have reasonably been foreseen in 2007 when the CPS was adopted. For example, energy prices have fallen every year since 2008 due in part to unprecedented shale gas exploration and production, dramatically reducing the natural gas price and, in turn, energy prices. Midwest Generation states installing emission controls at the Crawford Station in late 2011, “only to cease operation of that station by the end of August 2012, provides clear evidence of the unforeseen economic circumstances now facing the company.” Pet. at 2. Similar financial constraints have been experienced by other power generators “such as Ameren, which came before this Board for similar relief earlier this year, or Exelon, which has publicly disclosed that it is deferring significant capital expenditures from 2012 to 2015.” *Id.* at 41. Given Midwest Generation’s current financial condition as it works through financial restructuring, the company maintains that it must conserve cash in 2013 and 2014. Midwest Generation expects operating losses and deficits to continue through 2014.

Midwest Generation has spent approximately \$200 million in capital costs toward CPS compliance, including costs to control mercury and NO_x emissions as required by the CPS and to start installing the Trona injection FGD equipment at Powerton Unit 6. If the variance is not granted, Midwest Generation argued that its previous investments in compliance would be at risk. Pet at 37.

The capital cost of the Trona FGD equipment is estimated to be an average of \$38 million per unit. Additional costs are associated with operating the Trona FGD and procuring ultra-low sulfur coal. Midwest Generation is also investing in ESP upgrades at an average cost of \$55 million per unit to avoid increases in PM emissions resulting from the FGD. To comply with the CPS FGD equipment requirements for Waukegan Units 7 and 8 and meet the 2015 and 2016 SO₂ system-wide emission rates, Midwest Generation claims that it would need to spend \$440 million from 2013 through 2014. Then, from 2015 through 2018, the company would need to spend hundreds of millions of dollars more to install controls on its remaining units to meet the declining CPS annual SO₂ emission rates.

Midwest Generation plans on spending approximately \$230 million in 2013 and 2014 to install FGD controls on Powerton Unit 6 and Waukegan Unit 7 and to continue engineering and procurement of long lead material for controls on other units. However, due to changed financial conditions, Midwest Generation “needs to defer still more control costs that would be required in 2013 and 2014 to achieve the CPS SO₂ rates in 2015 and 2016 and to install the FGD equipment at Waukegan Unit 8.” Pet. at 41. Specifically, an additional \$210 million would be necessary *in 2013 and 2014* to comply with the CPS requirement for (1) installing FGD at Waukegan Unit 8 by the end of 2014 and (2) system-wide SO₂ emission rates in 2015 and 2016 (by installing Trona FGD and ESP upgrades on Waukegan Unit 8, Powerton Unit 5, and Joliet Unit 7 or 8). Pet. Exh. 3 at 7-8. The company has been unable to identify any other funding sources. Midwest Generation contends that not granting the requested variance relief would put at risk the company, its generating stations, its employees, and others that rely on the stations, as well as the compliance investments already made.

The five-month delay of the Section 225.296(a)(2) deadline of December 31, 2014 would allow Midwest Generation to take advantage of the economies associated with working on both Waukegan Units 7 and 8 at the same time and account for the need to stagger the outages associated with the work. The Board has granted variances, in part, to allow sources to coordinate required retrofits with other construction projects at a facility. *See ExxonMobil Oil Corp. v. IEPA*, PCB 11-86, 12-46 (consol.) (Dec. 1, 2011); *Dynegy Midwest Generation, Inc. v. IEPA*, PCB 09-48 (May 7, 2009). Midwest Generation also commits to not operating Waukegan Unit 8 after December 31, 2014, until installation of the FGD equipment is complete.

Midwest Generation asserts that without variance relief, it would be forced to curtail operations at uncontrolled units by about 35% in 2015 and 75% in 2016, compared to average generation levels over the last five years. The company explains that this substantial curtailment in generation (and in resulting revenue) could result not only in penalties under capacity contracts and regulatory scrutiny over grid reliability, but also could threaten the continued viability of Midwest Generation and its generating stations. Alternatively, requiring Midwest Generation to somehow fund the additional \$210 million in necessary control costs at the same

time the company funds \$230 million in other CPS controls could pose the same threat. Pet. Exh. 3 at 8. Midwest Generation also claims that closing the stations would have devastating impacts on hundreds of workers and would remove hundreds of millions of dollars from the economy.

Environmental and Health Impact of Granting Variance

Variance Period

Midwest Generation seeks relief from the system-wide emission rates of 0.28 lb/mmBtu in 2015 and 0.195 lb/mmBtu in 2016, as set forth in 35 Ill. Adm. Code 225.295(b), *i.e.*, a two-year period from January 1, 2015 through December 31, 2016. Midwest Generation also seeks relief from the CPS requirement to install and have operational FGD equipment on, or to permanently shut down, Waukegan Unit 8 by December 31, 2014, as set forth in Section 35 Ill. Adm. Code 225.296(a)(2); the company asks for a 5-month delay, beginning on January 1, 2015 and extending through May 31, 2015. Pet. at 1.

Section 104.204(g) of the Board's procedural rules requires Midwest Generation 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." 35 Ill. Adm. Code 104.204(g). Midwest Generation provided this information in various formats for the four-year period of 2013 through 2016. Hrg. Exh. 5 Table 5.1; Hrg. Exh. 10. The year 2013 is the appropriate start point because the proposed variance would require that Midwest Generation comply with an annual SO₂ mass emissions cap in 2013 and 2014 to achieve reductions greater than anticipated under the CPS. Crawford Units 7 and 8 would have to remain shut down in 2013 and 2014. Regulatory relief would be provided only in years 2015 and 2016, each of which would also have an annual SO₂ mass emissions cap. Midwest Generation proposes to be in CPS compliance as of 2017. The Board finds that the relevant period for analyzing the environmental impact of the variance is 2013 through 2016.

Environmental Impact

Midwest Generation asserts that granting its petition would cause no "net adverse environmental impact," but rather would result in a "net environmental benefit" over the years 2013 through 2016. Pet. at 10. The Citizens Groups disagree. They argue that the proposed variance "would allow [Midwest Generation] to actually increase its SO₂ emissions in the short term, and to continue to cause and contribute to existing State air quality problems." PC 5728 at 9. The Citizens Groups assert that the increase is obscured because Midwest Generation's "SO₂ CPS Baseline" is based upon the average annual heat input from 2008 - 2011 and excludes 2012.

The Citizens Groups emphasize that Midwest Generation's projected 2012 SO₂ emissions of 56,395 tons are less than the proposed mass emissions caps for 2013 (57,000 tons) and the 2013 CPS Baseline (65,341 tons). PC 5728 at 10-11, *citing* Pet. Exh. 3 at 5. The Citizens Groups present net SO₂ emissions calculations that differ from those of Midwest Generation. PC 5728 at 11-12.

The calculations of both Midwest Generation and the Citizens Groups use the units legally permitted to operate in 2013 through 2016: Crawford Units 7 and 8 (only in 2013 and 2014); Joliet Units 6, 7, and 8; Powerton Units 5 and 6; Waukegan Units 7 and 8; and Will County Units 3 and 4. However, Midwest Generation compares the proposed 2013 and 2014 mass emission caps (57,000 tons + 54,000 tons) to the *SO₂ emissions based on the average 2008-2011 annual heat input*. The Citizens Groups, on the other hand, compare the proposed 2013 and 2014 mass emission caps to *the projected 2012 SO₂ emissions*. Midwest Generation shows a reduction of 15,227²¹ tons of SO₂ emissions in 2013 and 2014 under the variance (Hrg. Exh. 12), but the Citizens Groups show a reduction of only 1,795²² tons of SO₂ emissions in 2013 and 2014 under the variance (PC 5728 Exh. C).

The calculations of both Midwest Generation and the Citizens Groups reflect that the proposed cumulative 2015 and 2016 mass SO₂ emissions under the variance are 12,047 tons greater than the CPS baseline (76,000 tons - 63,954 tons). Midwest Generation calculates a net environmental *benefit* from the variance: 3,181 tons *less* SO₂ emitted during 2013 through 2016 (*i.e.*, 15,227 ton reduction in 2013 and 2014 minus 12,047 ton increase in 2015 and 2016 equals a net reduction in SO₂ emissions of 3,181 tons). However, using the smaller 1,795 ton reduction in 2013 and 2014, the Citizens Groups assert that there is a *negative* net environmental impact from the variance: 10,252 tons *more* SO₂ emitted during 2013 through 2016 (*i.e.*, 1,795 ton reduction in 2013 and 2014 minus 12,047 ton increase in 2015 and 2016 equals a net increase in SO₂ emissions of 10,252 tons). PC 5728 at 11-12.

Midwest Generation counters that the Citizens Groups' net emissions calculation seeks to penalize early emission reductions. Midwest Generation states that this approach is not consistent with the Agency's position or prior variance precedent for these types of calculations. Reply Br. at 6. Midwest Generation notes that its analysis calculated emissions that would reasonably be anticipated under the CPS in a "business-as-usual" scenario, including emissions from Crawford Units 7 and 8 in 2013 and 2014. *Id.* at 11; Pet. at 21.

The Board observes that the CPS (35 Ill. Adm. Code 225.296(a)) does not require the shutdown of Crawford Units 7 and 8 in 2013 or 2014. In the Waukegan Order, the Board ordered these two units shut down by December 31, 2014. However, Midwest Generation ceased operation of the Crawford coal-fired units at the end of August 2012, over two years earlier than required. Pet. at 2, 9. The Board finds that these early shutdowns at the Crawford station prevent the 2012 emissions from being considered typical.

²¹ This value is derived from the 2013 and 2014 SO₂ emissions based on the CPS emission rates and average 2008 - 2011 heat input for units legally permitted to operating in 2013 - 2016, minus the proposed SO₂ mass emission caps for 2013 and 2014: (65,341 + 60,886) - (57,000 + 54,000) = 15,227 tons. Hrg. Exh. 5, Table 5.1.

²² This value is derived from the 2012 projected SO₂ mass emissions multiplied by two, minus the proposed SO₂ mass emission caps for 2013 and 2014: (56,395 x 2) - (57,000 + 54,000) = 1,790 tons. This figure is slightly different than the 1,795 figure presented by the Citizens Groups. PC 5728 at 12; PC 5728 Exh. C.

The Board finds further support for Midwest Generation's calculations, including use of average 2008 - 2011 heat input, in the Agency's recommendation, where the Agency states:

[T]he amounts of creditable SO₂ emission reductions set forth by [Midwest Generation] . . . are consistent with the data currently available to, and reviewed by, the Illinois EPA during the course of its investigation of [Midwest Generation's] Petition. In particular, the emission reduction credits available as a result of [Midwest Generation's] proposed mass emission limitations are quantifiable and creditable. Furthermore, the determination by [Midwest Generation] showing a net environmental benefit in SO₂ emissions over the term of the variance is consistent with the method utilized in similar previous variance requests. Agency Rec. at 8.

From 2013 through 2016, Midwest Generation's anticipated SO₂ emissions equal 190,181 tons under the CPS. Hrg. Exh. 5 Table 5.1. Based upon CPS SO₂ emission rates (0.44 lb/mmBtu for 2013 and 0.41 lb/mmBtu for 2014), along with the proposed variance SO₂ emission rate (0.38 lb/mmBtu for 2015 and 2016), Midwest Generation's calculated total SO₂ emissions equal 228,553 tons for 2013 through 2016. This figure is based upon the average 2008 - 2011 heat input for the units that Midwest Generation is legally permitted to operate in 2013 through 2016. Resp. at 10-11. However, the proposed annual caps on SO₂ mass emissions would limit the total SO₂ emissions to 187,000 tons for the same period of time.

The Board accepts Midwest Generation's calculations. Comparing the mass emissions anticipated under the CPS to those proposed here reveals that the variance would result in a net 3,181-ton reduction in SO₂ emissions over the time period of 2013 through 2016. To achieve this net reduction, critical to Midwest Generation's proposal is a commitment to SO₂ mass emissions caps. For the years 2013 and 2014, while Midwest Generation proposes to meet the CPS SO₂ emission rates, the proposed annual caps on SO₂ mass emissions for those years provide reductions in excess of those anticipated under the CPS. While the SO₂ mass emissions under the variance in 2015 and 2016 would be greater than anticipated under the CPS, the cumulative emissions for the years 2013 through 2016 would be less under the variance.

Midwest Generation adds that because of its commitment to comply with mass emission levels of SO₂, "[i]n no year during the term of the variance would emissions increase over the previous year." Resp. at 13. As Dr. Fraiser testified, SO₂ mass emissions decrease continuously over the four-year variance period "such that each successive year result[s] in lower SO₂ emissions than the previous year." Tr. at 123.

Midwest Generation points out further that the proposed variance SO₂ emission rate of 0.38 lb/mmBtu for 2015 and 2016 is lower than the CPS 2014 rate of 0.41 lb/mmBtu. Post Br. at 6. Although SO₂ reductions under the variance in 2015 (33,458 tons from emission rate of 0.38 lb/mmBtu) would be less than those under the CPS for 2015 (34,465 tons from emission rate of 0.28 lb/mmBtu), the reductions are greater than the presumptive BART reductions of 31,440 tons per year. Pet. at 51; Hrg. Exh. 9.

Midwest Generation states that the variance emission rate of 0.38 lb/mmBtu, along with the mass emissions caps under the variance, would result in SO₂ levels below those from Illinois' BART SIP submittal, which demonstrated that the system-wide CPS rates produce greater reductions than BART. Pet. at 51; Hrg. Exh. 9.

The Board finds that Midwest Generation has demonstrated that it will emit 3,181 tons less SO₂ under the variance than under the CPS from 2013 through 2016. This is to be accomplished by (1) complying with an average annual SO₂ emission rate of 0.44 lb/mmBtu in 2013, 0.41 lb/mmBtu in 2014, and 0.38 lb/mmBtu in 2015 through 2016; and (2) abiding by declining SO₂ mass emission caps of 57,000 tons in 2013, 54,000 tons in 2014, 39,000 tons in 2015, and 37,000 tons in 2016.

The Board recognizes that Midwest Generation's emission estimates show that it will emit more SO₂ under the variance than under the CPS in years 2015 and 2016. Specifically, Midwest Generation would emit 76,000 tons of SO₂ under the variance compared to 63,954 tons of SO₂ under the CPS.²³ In other words, Midwest Generation would emit 12,047 *more* tons of SO₂ during years 2015 and 2016 under the variance. However, the Board finds that the higher SO₂ emissions during 2015 and 2016 are offset by the reduced SO₂ emissions during years 2013 and 2014. Specifically, in 2013 and 2014, Midwest Generation would emit 111,000 tons of SO₂ under the variance, compared to 126,227 tons of SO₂ under the CPS.²⁴ Accordingly, Midwest Generation would emit 15,227 fewer tons of SO₂ during the years of 2013 and 2014 under the variance. This results in 3,181 more tons in SO₂ emission reductions over the length of the variance, from 2013 through 2016, than required under the CPS.

By committing to caps on annual SO₂ mass emissions in addition to the proposed step down in emission rates, the Board finds that Midwest Generation provides a means of assuring that cumulative emissions over the period of 2013 through 2016 would be lower than anticipated under the CPS rates based on the 2008 to 2011 heat input. Pet. at 11; Hrg. Exh. 5, Table 5.1. The Board also finds that under the conditions of the variance, the SO₂ reductions would be greater than expected under the presumptive BART for 2015 and 2016. Hrg. Exh. 9.

Additionally, the Board recognizes that Midwest Generation's compliance plan would also result in fewer emissions of other pollutants over the 2013 through 2016 timeframe: 11,553 tons of NO_x, 183 pounds of mercury, 22,266,320 tons of CO₂ greenhouse gases, and 4,306 tons of PM. Hrg. Exh. 5 at 11; Resp. at 11; Hrg. Exh. 10; Tr. at 69.

²³ Proposed variance SO₂ mass emission level caps for 2015 and 2016: 39,000 + 37,000 = 76,000 tons. CPS SO₂ mass emissions for 2015 and 2016: 37,699 + 26,255 = 63,954 tons. Hrg. Exhs. 5, 10.

²⁴ Proposed SO₂ mass emission level caps for 2013 and 2014: 57,000 + 54,000 = 111,000 tons. CPS SO₂ mass emissions for 2013 and 2014: 65,341 + 60,886 = 126,227 tons. Hrg. Exhs. 5, 10.

Health Impact

The health professionals voiced concern that granting the variance would weaken the CPS. They cite to health and environmental effects from high levels of SO₂ that can “exacerbate respiratory symptoms in at-risk individuals (including children and the elderly), including asthma and COPD attacks,” and cause “SO₂-derived acid rain damage to foliage.” PC 5752 at 1. In addition, the health professionals state that SO₂ is among the precursors to PM_{2.5} and ground-level ozone and refer to scientific studies identifying PM_{2.5} as harmful to human health based on causal linkages found between short- and long-term exposures with premature mortality and cardiovascular effects. *Id.* The health professionals state that “[b]y maintaining the present CPS emission rate requirements for each of the pollutants, you will ensure that the health improvements behind the spirit of the law remain intact.” *Id.* at 2

The Citizens Groups argue that Midwest Generation did not address the effects of PM as a by-product of SO₂ emissions in the atmosphere. The Citizens Groups cite to a 2005 study attributing 50% of the PM_{2.5} formation in central Illinois to sulfur or SO₂. The Citizens Groups also cite to a 2009 USEPA assessment linking short- and long-term exposures to PM_{2.5} with cardiovascular events (*e.g.*, heart attacks) and mortality in a causal relationship and with respiratory illness (*e.g.*, asthma attacks and episodes of COPD) in a likely causal relationship. PC 5728 at 13-15.

The Agency “does not believe that any injury to the public would result from the granting of the variance.” Agency Rec. at 13.

Midwest Generation reiterates Dr. Fraiser’s testimony regarding SO₂ and PM. Dr. Fraiser made the distinction “that most epidemiological evidence points to particulate matter as a stronger causal agent in causing both mortality in most cardio respiratory effects than gaseous sulfur dioxide.” Tr. at 117. Because sulfur dioxide is found most of the time in association with particulate matter, Dr. Fraiser explained that separating the health effects of these two pollutants has been difficult. Tr. at 117. Dr. Fraiser went on to explain that with “the net decrease in SO₂ emissions under the variance would also come a corresponding net health benefit, if you assume that the emissions from the plants are capable of causing health effects in the first place [T]he variance will also result in reductions in emissions of a variety of other air pollutants as well . . . [which] would be expected to result in the avoidance of potential health effects, in addition to the sulfur dioxide reductions.” Reply Br. at 7, *citing* Tr. at 124-125. Midwest Generation points out that these other pollutant emission reductions include PM. Reply Br. at 7. Under the variance, the proposed cap on mass emissions for SO₂ would also reduce PM emissions in the years 2013 through 2016 by 777 tons, 689 tons, 1,312 tons, 1,528 tons, respectively, for a cumulative net reduction of 4,306 tons PM. Hrg. Exh. 5 at 11; Resp. at 11, Hrg. Exh. 10; Tr. at 69.

Regarding the Citizens Groups’ concern over health effects linked to SO₂ contributions to PM_{2.5} formation, the Board observes that CAIR and the new primary SO₂ NAAQS address this issue. In establishing the new 1-hour SO₂ NAAQS, USEPA discussed the federal regulations currently in effect that address the contribution of SO₂ to the formation of PM_{2.5}:

[US]EPA has also promulgated the Clean Air Interstate Rule (CAIR) to define additional SO₂ emission reductions needed in the Eastern United States to eliminate significant contribution of upwind States to downwind States' nonattainment, or inability to maintain, the PM_{2.5} NAAQS pursuant to [Clean Air Act] section 110(a)(2)(D), 42 U.S.C. 7410(a)(2)(D), a rule which EPA is reevaluating pursuant to court remand. 75 Fed. Reg. 35571-35572 (June 22, 2010)

In terms of how the SIPs for the new primary SO₂ NAAQS would be able to incorporate efforts to address PM_{2.5} formation, USEPA also stated:

These section 110(a)(1) SIPs would be able to rely on modeling reflecting any SO₂ reductions that we expect to result before the attainment date from compliance with the rules EPA expects to promulgate before 2013, (including technology-based standards under [Clean Air Act] section 112(d) for certain source categories emitting large amounts of SO₂ such as Electric Generating Units and industrial boilers, and revised rules establishing further limits on SO₂ emitted by sources in upwind States which contribute significantly to downstream States' inability to attain or maintain the PM_{2.5} [NAAQS] (the so-called Clean Air Interstate Replacement rule)). 75 Fed. Reg. 35553 (June 22, 2010)

Among the conditions of the variance, Midwest Generation proposes to comply with CAIR or its replacement during the variance period, as well as the Acid Rain Program at 40 C.F.R. 72, and all other applicable requirements. Post Br. Exhs. A, B. The Board finds that granting Midwest Generation's petition for variance, subject to the conditions in the order below, would be consistent with Illinois' obligations under the Clean Air Act.

Illinois' State Implementation Plan - Regional Haze

As noted above, USEPA approved the revisions to the Illinois SIP addressing regional haze on July 6, 2012. 77 Fed. Reg. 39943 (July 6, 2012). Generally, for visibility protection, each source subject to BART must install and operate BART as "expeditiously as practicable," but in no event later than five years after approval of the SIP revision. *See* 42 U.S.C. § 7491(g)(4); 40 C.F.R. § 51.308(e)(1)(iv). Because USEPA approved the Illinois regional haze SIP submittal in July 2012, the attainment date in Illinois would be no later than July 2017.

If the Board grants this variance petition, the Agency will submit the variance order as a SIP revision. Agency Rec. at 14. The Agency believes that granting the variance "will not jeopardize its current obligations under the Illinois SIP," and "[c]urrent obligations to attain and maintain the NAAQS will not be jeopardized due to the net environmental benefit over the term of the variance." Tr. at 136-137. Midwest Generation points out that the variance would end six months before the attainment date of July 2017, which would be five years after USEPA's July 6, 2012 SIP approval. Pet. at 50-51; 77 Fed. Reg. 39943; Hrg. Exh. 8. Compliance with the limits reflecting BART in the Illinois SIP would therefore also not be affected. At the end of the variance period, Midwest Generation would be required to comply with the CPS 2017 system-wide SO₂ limit of 0.15 lb/mmBtu. Pet. at 50-51.

USEPA explained the nature of the regional haze problem and its relationship with SO₂ 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—[SO₂], [NO_x], and in some cases ammonia (NH₃) 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.

The 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 SO₂ 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. at 3967, 3973 (Jan. 26, 2012).

Midwest Generation states that the proposed emission rate of 0.38 lb/mmBtu, along with the mass emissions limits, would result in levels below those included in Illinois' BART submittal for the regional haze SIP. Pet. at 51; Hrg. Exh. 9.

Illinois' State Implementation Plan - Primary SO₂ NAAQS

As referenced by Midwest Generation, the Agency, Dr. Fraiser, the Citizens Groups, and others, USEPA established the new primary NAAQS for SO₂ of 0.75 ppb on June 22, 2010, which became effective on August 23, 2010. *See* 75 Fed. Reg. 35520 (June 22, 2010). In so doing, USEPA set into motion requirements and a timeline for the states to develop their designation recommendations and SIPs for attainment, maintenance, and enforcement of the NAAQS. 77 Fed. Reg. 46295 (Aug. 3, 2012). Initially, USEPA intended to complete the initial area designations on a 2-year schedule, by June 3, 2012. 77 Fed. Reg. 46295-46296 (Aug. 3, 2012).

Later, however, USEPA was persuaded to take the extra year allowed under the Clean Air Act to issue designations because of insufficient information, and extended the latest date until June 3, 2013 to promulgate initial area designations for attainment. 77 Fed. Reg. 46295 (Aug. 3, 2012). On June 2, 2011, the Agency issued its recommendations for attainment/nonattainment designations for the 2010 one-hour SO₂ NAAQS. PC5728 Exh. F. On February 15, 2013, USEPA published a "Notice of Availability and Public Comment Period" for its responses to the states' SO₂ designation recommendations. USEPA plans to make final designation decisions by June 3, 2013, although USEPA stated that it may proceed sooner in some areas. 78 Fed. Reg. 11124-11126 (Feb. 15, 2013); 77 Fed. Reg. 46297; PC5728 Exh. G.

USEPA stated that within 18 months after the effective date of an area's designation as nonattainment, states would need to develop a SIP providing for attainment by the applicable statutory attainment date. 75 Fed. Red. 35577 (June 22, 2010). USEPA stated that "such plans would need to provide for attainment and maintenance of the new 1-hour SO₂ NAAQS as expeditiously as practicable, which we expect to be no later than five years after initial designation . . . in all areas of the State" 75 Fed. Reg. 35553 (June 22, 2010).

If in June 2013, USEPA makes its final decision on the initial Illinois attainment/nonattainment area designations for the new primary SO₂ NAAQS, five years later would be June 2018. The attainment deadline then would be June 2018. The variance would end approximately one year and six months before the attainment deadline. Although the Agency stated the attainment date of the 2010 SO₂ NAAQS is no sooner than July 2017 (Tr. at 137), the Board notes that this date appears to hinge upon USEPA's prior intention to issue designations by June 3, 2012, or the attainment date for the Illinois' regional haze SIP.

The Board finds that granting Midwest Generation's petition for variance, subject to the conditions in the order below, would be in accord with requirements to attain and maintain NAAQS compliance.

**Weighing Hardship to Midwest Generation from Denying Variance
Against Environmental and Health Impact from Granting Variance**

Midwest Generation must establish that the hardship from denying the variance "outweighs any injury to the public or the environment" from granting the variance. Marathon Oil, 242 Ill. App. 3d at 206, 610 N.E.2d at 793. If Midwest Generation 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.*

Based upon this record, granting the variance would result in a 3,181-ton decrease in SO₂ being emitted from 2013 through 2016 as compared to requiring CPS compliance. The Board acknowledges that the net reduction here in SO₂ emissions would be much smaller than in Ameren, PCB 12-126, but so is the term of the relief from emission rates, two years here as compared to dual terms of five years and three years. *See Ameren*, PCB 12-126, slip op. at 54, 56 (reductions over greater time period with larger fleet). The variance here would also be subject to annual SO₂ mass emission caps in 2013, 2014, 2015, and 2016, as well as an SO₂ emission rate of 0.38 lb/mmBtu in 2015 and 2016. Crawford station's units would have to remain out of operation in 2013 and 2014. Additionally, by reducing the average annual heat input, the proposed caps on mass emissions for SO₂ would effectively reduce emissions of other pollutants, as noted above: 11,553 tons of NO_x; 183 pounds of mercury; 22,266,320 tons of CO₂ greenhouse gases; and 4,306 tons of PM.

The Agency takes no issue with Midwest Generation's manner of calculating a "net environmental benefit" and does not believe that any injury to the public would result from the Board granting the requested variance. Jim Ross, Manager of the Agency's Division of Air Pollution Control, Bureau of Air, testified that the variance request would not jeopardize the

State's ability to meet its obligations under the Illinois SIP or regarding NAAQS compliance. The primary NAAQS are set to protect public health, including sensitive populations. The record supports finding that the requested variance will result in a net reduction in pollutant emissions over the variance period of 2013 through 2016 and is consistent with Illinois' obligations under the Clean Air Act, as discussed below.

In considering the hardship to Midwest Generation from denying the variance, the record supports finding that the company is in such an extremely difficult financial position as to preclude it from spending an additional \$210 million in 2013 and 2014 to be in compliance with the CPS in 2015 and 2016. Midwest Generation's claims that significant negative developments in energy prices and capacity markets were not reasonably foreseeable in 2007 when the CPS was adopted have not been directly refuted by commenters opposing the variance petition. The Board takes into account that Midwest Generation has spent \$200 million on emission controls and plans to spend another \$230 million in 2013 and 2014.

Weighing these considerations, the Board finds that requiring Midwest Generation to comply with Sections 225.295(b) in 2015 and 2016 and Section 225.296(a)(2) by December 31, 2014, would impose an arbitrary or unreasonable hardship on the company.

Variance's 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 explains that there is currently no federal authority that would preclude granting the variance request. The Agency will submit the variance order, if granted, for approval as a revision to the Illinois SIP. Agency Rec. at 14.

As noted above, USEPA adopted a new primary NAAQS for 1-hour average SO₂ concentrations of 0.75 ppb on June 22, 2010, which became effective on August 23, 2010. 75 Fed. Reg. 35520 (June 22, 2010). USEPA set a date of June 3, 2013 by which to promulgate initial area designations for attainment. 77 Fed. Reg. 46295 (Aug. 3, 2012). Within 18 months after the effective date of an area's designation as nonattainment, states would need to develop a SIP providing for attainment by the applicable statutory attainment date, no later than five years after initial designation. 75 Fed. Red. 35553, 35577 (June 22, 2010). On June 29, 2012, USEPA also proposed to make revisions to the primary and secondary NAAQS for particulate matter (PM_{2.5} and PM₁₀²⁵). 77 Fed. Reg. 38890 (June 29, 2012).

The Citizens Groups filed a copy of the Agency's "Technical Support Document: Recommended Nonattainment Designations in Illinois for the 2010 Revised Primary 1-Hour SO₂ National Ambient Air Quality Standard," dated June 2, 2011. PC 5728 Exh. F. The Citizens Groups also filed a copy of USEPA's response to the Agency's recommendation for SO₂

²⁵ Particles generally less than or equal to 2.5 and 10 micrometers in diameter, respectively. See 77 Fed. Red. 38890 (June 29, 2012).

designations under the new 1-hour standard, dated February 6, 2013. PC5728 Exh. G. USEPA stated that it intends to designate the following areas as nonattainment for the 2010 SO₂ standard: (1) Lemont: Cook County, IL (Lemont Township) and Will County, IL (DuPage and Lockport Townships); and (2) Pekin: Tazewell County, IL (Cincinnati and Pekin Townships) and Peoria County, IL (Hollis Township). PC5728 Exh. G at 1. USEPA published a “Notice of Availability and Public Comment Period” for its responses to the states’ SO₂ designation recommendations on February 15, 2013. Comments were due by March 18, 2013. 78 Fed. Reg. 11124-11126 (February 15, 2013).

The Citizens Groups state that the CPS requirements were developed under an older, less stringent SO₂ air quality standard, allowing Midwest Generation to average SO₂ reductions over large air quality regions. Under the new 1-hour SO₂ standard, the Citizens Groups allege localized public health concerns with air quality in the areas where Midwest Generation operates the Powerton and Will County stations. PC 5728 at 17-18. USEPA’s proposal to designate the Lemont and Pekin non-attainment areas would encompass Cincinnati and Lockport Township where the Midwest Generation’s Powerton and Will County stations are located, respectively. PC5728 Exh. G at 1, Exh. F at 16, 27. The Citizens Groups state that “public health is already being harmed as a result of ongoing violations of the SO₂ one-hour NAAQS.” PC5728.

The Citizens Groups ask that the Board “incorporate Sierra Club’s Complaint and the attachments to its Complaint [Sierra Club v. Midwest Generation, LLC, PCB 13-27] into the record of this variance proceeding.” PC 5728 at 21. The Board observes that the referenced enforcement action remains automatically stayed pursuant to Section 362(a) of the Bankruptcy Code (11 U.S.C. § 362(a)). *See Sierra Club*, PCB 13-27, slip op. at 3-4 (Feb. 7, 2013). The Board has made no determination on the merits of Sierra Club’s complaint against Midwest Generation in PCB 13-27 and finds that it would be inappropriate to do so in this variance proceeding. The Board therefore denies the Citizens Groups’ request for incorporation.

As discussed above, the Agency believes that granting the variance will not jeopardize the State’s current obligations under the Illinois SIP or to attain and maintain the NAAQS. Tr. at 136-137. Additionally, the Agency explains that because the variance period would end approximately six months before the regional haze SIP attainment date of July 2017 and 1.5 years before the primary SO₂ NAAQS SIP attainment date of around June 2018, no impact on the State’s obligations for the new primary SO₂ NAAQS is expected. Tr. at 137.

The Board finds that granting Midwest Generation’s petition for variance, with the conditions in the order below, would not compromise Illinois’ obligation to comply with the Clean Air Act’s regional haze requirements or to attain and maintain compliance with the NAAQS. The Board therefore finds that Midwest Generation’s requested variance can be granted consistent with federal law.

Conditions of Variance

For the reasons below, the Board finds that Midwest Generation’s revised compliance plan is sufficiently definite to support granting the requested variance. The Board sets forth the requirements of the revised compliance plan as conditions of this variance.

Sufficiency of Petition's Compliance Plan

The Board's procedural rules for variances provide, in part, that the petition must include:

- f) A detailed description of the compliance plan, including:
 - 1) A discussion of the proposed equipment or proposed method of control to be undertaken to achieve full compliance with the regulation, requirement, or order of the Board;
 - 2) A time schedule for the implementation of all phases of the control program from initiation of design to program completion; and
 - 3) The estimated costs involved for each phase and the total cost to achieve compliance 35 Ill. Adm. Code 104.204(f).

In its petition, Midwest Generation proposed the following compliance plan: (1) limiting system-wide emissions of SO₂ to no more than 57,000 tons in 2013; 54,000 tons in 2014; 39,000 tons in 2015; and 37,000 tons in 2016; (2) reporting to the Agency its system-wide mass SO₂ emissions for 2013, 2014, 2015, and 2016 with each applicable Annual Emissions Report; (3) not operating the coal-fired boilers at Crawford in 2013 and 2014; (4) not operating Waukegan Unit 8 from January 1, 2015, until completion of installation of FGD equipment; (5) completing installation and having operational FGD equipment on Waukegan Unit 8, or permanently shutting down such unit, by May 31, 2015; (6) complying with system-wide annual SO₂ emission rate of 0.38 lb/mmBtu in 2015 and 2016; and (7) complying with the CAIR, Acid Rain Program, and all other applicable requirements during the term of the variance. Pet. at 52-54.

The petition's compliance plan does not specify the proposed equipment, a time schedule for the various phases of design to completion, or costs for each phase. Although not part of the company's proposed compliance plan, Midwest Generation plans to spend \$230 million on SO₂ emission controls and related PM controls in 2013 and 2014, naming Powerton Unit 6 and Waukegan Unit 7. Pet. at 3. Midwest Generation identifies an additional \$210 million in necessary expenditures to comply with the 2015 and 2016 CPS group average annual SO₂ emissions rate, which it seeks to defer with the variance. *Id.* at 7-8. Midwest Generation also gave a typical time frame for installation of Trona FGD equipment and ESP upgrades of 18 to 24 months, with outages lasting 16-20 weeks. Pet. at 6.

In written questions to Midwest Generation, the Board requested that the company provide more specific information in the compliance plan on the activities involved in implementing the SO₂ and related PM controls, including types of equipment to be installed and upgrades to be made and which activities would occur at which units. The Board requested a time schedule for implementing all phases of the compliance plan, from initiation of design to program completion. The Board also requested the estimated costs involved for each phase. *See* Hearing Officer Order, PCB 13-24 (Dec. 24, 2012).

Midwest Generation responded that unit-specific control details would constrain the flexibility inherent in the CPS. Resp. at 2, 8, 17. The company stated that the CPS neither sets forth unit-specific requirements for the type of FGD equipment nor specifies how the emissions must be balanced among the units. Resp. at 5. Midwest Generation also asserted that it should be able to “retain the ability to adopt alternate or emerging technologies in order to comply.” Resp. at 6. Midwest Generation stated that flexibility in the CPS can help the company address its ongoing restructuring efforts in light of changes in the energy market, as well as the market for control equipment and laborers doing installations. Resp. at 6. Later at hearing, the Board asked further questions about the timeframe and costs for adding or upgrading controls at each unit. Tr. at 69-78.

Citizens Groups’ Concern Over Sufficiency of Petition’s Compliance Plan

After the hearing, the Citizens Groups argue that Midwest Generation’s proposal lacks a sufficient compliance plan. PC 5728 at 2. The Citizens Groups compare the compliance plan proposed in Midwest Generation’s petition to the conditions of the variance granted in PCB 12-126 for AER. PC 5728 at 4, *citing Ameren*, PCB 12-126. The Citizens Groups assert the compliance plan in Midwest Generation’s petition does not rise to the level of detail the Board required of AER in *Ameren*, PCB 12-126, where the Board found AER’s compliance plan must include “specific dates to demonstrate progress toward achieving compliance with the applicable requirements.” PC 5728 at 3-4, *citing Ameren*, PCB 12-126, slip op. at 66.

Because Midwest Generation is seeking relief from the CPS, the Citizens Groups argue that the company’s plea to maintain the flexibility offered by the CPS is without merit. The Citizens Groups also question how the company intends to meet the proposed 2015 and 2016 mass emission limits at the proposed rate of 0.38 lbs/mmBtu. The Citizens Groups assert that “[t]his heat input reduction [of about 65 million Btu²⁶ from 2013 levels] would be the equivalent of closing a quarter of [Midwest Generation’s] fleet.” PC 5728 at 5, referring to Hrg. Exh. 10. Additionally, with bankruptcy proceedings still pending, the Citizens Groups raise concerns over the uncertainty surrounding Midwest Generations fleet and emphasize that the company must provide a detailed compliance plan. PC 5728 at 4-6.

Revised Compliance Plan

In its post-hearing brief, Midwest Generation proposed a revised compliance plan. Midwest Generation stated that the proposed enhanced compliance plan was reviewed by the Agency and incorporated comments from the Agency and reflects consideration of the Board’s questions in writing and at hearing. Reply Br. at 1, 4-5; Post Br. at 15-16, 19; Post Br. Exhs. A, B. In response to continued concerns from Citizens Groups, Midwest Generation replies by pointing to its revised compliance plan. Reply Br. at 4-6.

²⁶ The Citizens Groups’ reference to “65 million Btu” appears to be a typographical error, rather meaning 65 million mmBtu, where “mmBtu” stands for million British thermal units or 1,000,000 Btu.

As discussed below, Midwest Generation's revised compliance plan includes provisions for quarterly and annual progress reports and meetings with the Agency, as well as specific dates for initiating preliminary engineering and project planning, filing for permit applications, and commencing construction to install emissions controls.

One Possible CPS Compliance Scenario

Along with the revised compliance plan in its post-hearing brief, Midwest Generation included, as Exhibit C to the brief, a detailed "CPS Compliance Scenario Through 2017 Assuming All Units Operate and Receive Controls." Post Br. Exh. C. Midwest Generation emphasizes that this compliance scenario is one of a few other possible scenarios. Post Br. at 17-18. Exhibit C lists specific units and associated equipment Midwest Generation has identified in one compliance scenario to demonstrate progress toward compliance with the CPS by 2017. Units included in Exhibit C are Joliet Units 7 and 8, Powerton Units 5 and 6, Waukegan Units 7 and 8, and Will County Units 3 and 4. Equipment associated with each unit includes FGD, DSI (dry sorbent injection), and ESP upgrades. Post Br. Exh. C.

Exhibit C also presents detailed timelines and schedules for each unit and each phase: preliminary engineering and project planning; long lead fabrication; construction; and ESP retrofit outage. The possible schedule from preliminary engineering and project planning through the completion of construction shows the following: Powerton Unit 5 from the first quarter of 2015 through the fourth quarter of 2016; Powerton Unit 6 currently in progress through the end of 2014; Waukegan Unit 7 currently in progress through the end of 2014; Waukegan Unit 8 from just before the start of 2014 through the second quarter of 2015; Will County Unit 3 from the third quarter of 2014 through the third quarter of 2016; Will County Unit 4 from the beginning of 2015 through the fourth quarter of 2016; and Joliet Units 7 and 8 from the beginning of 2015 through the fourth quarter of 2016. Post Br. Exh. C.

Although the petition provided estimated average capital costs of \$38 million per unit for the Trona FGD equipment and \$55 million for the ESP upgrades, Exhibit C further broke down these cost estimates on a per unit basis. Pet. Exh. 5 at 6. Exhibit C estimates: \$2 to \$5 million for preliminary engineering and planning; \$20 to \$45 million for long lead fabrication; \$18 to \$45 million for construction; and \$17 to \$40 million for outage. Post Br. Exh. C. Additionally, Midwest Generation asserted that the ongoing work at Powerton Unit 6 and Waukegan Unit 7 for the installation of the SO₂ emissions controls and related PM controls in 2013 and 2014 involves an expenditure of \$230 million. Pet. at 3. Midwest Generation did not include Powerton Unit 6 and Waukegan Unit 7 as a part of the proposed compliance plan. However, the Board finds that those units should be part of the compliance plan, as discussed below.

The Board recognizes that Midwest Generation provided the Exhibit C compliance scenario for information purposes and not as a part of its proposed plan to comply with the CPS emission rates. However, Midwest Generation does propose that its first quarterly progress report to the Agency must discuss the compliance scenarios outlined in Midwest Generation's opening brief, including Exhibit C. Further, Midwest Generation must inform the Agency by December 31, 2014, of the company's selected approach for achieving compliance with the 2017 SO₂ emission rate of 35 Ill. Adm. Code 225.295(b), including any emission controls that

Midwest Generation will implement. There are also provisions for progress reports and meetings with the Agency and specific dates for initiating preliminary engineering on emission controls (January 1, 2015), filing for permit applications (March 31, 2015), and commencing construction (December 31, 2015). Of course, by May 31, 2015, Waukegan Unit 8 must have installed and operational FGD equipment or be permanently shut down.

The Board finds that Midwest Generation's revised compliance plan, along with the conditions added by the Board, is sufficiently definite to support granting this variance.

Finally, the Board acknowledges that the variance granted in Ameren, PCB 12-126, includes a more detailed construction schedule. However, AER has only one construction project to perform, the Newton FGD, as its compliance plan. Midwest Generation, on the other hand, has up to nine FGD construction projects across as many as four power plants. Nevertheless, as detailed below, the Board finds that this record supports the imposition of a condition requiring that emission controls be installed on Powerton Unit 6 and Waukegan Unit 7 by the end of 2014.

Powerton Unit 6 and Waukegan Unit 7

Midwest Generation stated in its variance petition that “[n]otwithstanding its current cash flow and credit challenges,” the company:

is not asking for relief from CPS provisions that will require it to spend approximately \$230 million in 2013 and 2014, including for planned controls at Powerton Unit 6 and Waukegan Unit 7 to comply with the CPS 2013 and 2014 SO₂ emission rates and the Waukegan Unit 7 control equipment requirements. Pet. at 5-6.

Since filing for Chapter 11 bankruptcy, Midwest Generation has not represented to the Board that the company cannot now perform this emission control construction work as planned.

Emission control work at Powerton Unit 6 and Waukegan Unit 7 is “[i]n progress.” Post Br. Exh. C. Midwest Generation claims that the controls at these two units are designed for compliance with CPS 2013 and 2014 SO₂ emission rates. The Waukegan Order provides that Midwest Generation, by December 31, 2014, must “either permanently shut down [Waukegan] Unit 7; or install and have operational FGD equipment, and convert the hot-side ESP to a cold-side ESP or install an appropriately designed fabric filter.” Waukegan Order, slip op. at 21 (Condition 3). The Waukegan Order provides a one-year extension on both SO₂ (35 Ill. Adm. Code 225.296(a)(1)) and PM (35 Ill. Adm. Code 225.296(c)(1)) control requirements with respect to Waukegan Unit 7. *Id.* For EGUs like Powerton Unit 6, Section 225.296(b) on SO₂ control technology provides that the owner or operator “must either permanently shut down or install FGD equipment on each specified EGU (except Joliet 5), on or before December 31, 2018” 35 Ill. Adm. Code 225.296(b). The CPS regulations do not impose a PM control requirement on Powerton Unit 6.

The Board finds that the emission control work at Powerton Unit 6 and Waukegan Unit 7 should be part of Midwest Generation's compliance plan. The main reason for Midwest Generation's variance request is the company's inability to fund \$210 million in 2013 and 2014 for the controls needed to comply with the CPS 2015 and 2016 SO₂ emission rates. As Midwest Generation has represented to the Board, this lack of funding is due in part to the company's need to separately spend \$230 million in 2013 and 2014 for controls to comply with the CPS 2013 and 2014 SO₂ emission rates, from which Midwest Generation seeks no variance relief. Tr. 50-51.

Midwest Generation has explained that to control SO₂ emissions, the company is installing Trona FGD, necessitating upgrades of its ESPs to control PM emissions. Pet. at 3. The company stated that ESP upgrades would generally include increasing the PM collection area, increasing the heights of the collection plates and the distance between the plates, installing high-frequency transformer rectifier sets, adding new fields of collection plates, redesigning air baffles, and updating computer control systems. Pet. Exh. 5 at 6. The Board finds that including a condition requiring FGD equipment and related ESP upgrades to be installed and operational at Powerton Unit 6 and Waukegan Unit 7 by the end of 2014 will help to ensure Midwest Generation's progress toward timely meeting the CPS 2017 SO₂ emission rate.

The Board clarifies the relationship between this condition and Condition 3 of the Waukegan Order. In today's order, Condition 3(B) reads as follows: "By December 31, 2014, for both Waukegan Unit 7 and Powerton Unit 6, Midwest Generation must install and have operational FGD equipment and related electrostatic precipitator (ESP) upgrades." As stated above, Condition 3 of the Waukegan Order provides that Midwest Generation, by December 31, 2014, must "either permanently shut down [Waukegan] Unit 7; or install and have operational FGD equipment, and convert the hot-side ESP to a cold-side ESP or install an appropriately designed fabric filter." Waukegan Order, slip op. at 21. Accordingly, both conditions affect Waukegan Unit 7 and have a December 31, 2014 deadline. Condition 3(B) of today's order, however, has the effect of eliminating the following option allowed by the Waukegan Order: permanently shutting down Waukegan Unit 7 in lieu of installing and having operational FGD equipment on that unit. Condition 3(B) requires that Waukegan Unit 7 have installed and operational FGD equipment by the end of 2014. Lastly, the Board understands that Condition 3(B)'s "related [ESP] upgrades" for Waukegan Unit 7 are distinct from the work in the Waukegan Order described as "convert the hot-side ESP to a cold-side ESP or install an appropriately designed fabric filter."

Quarterly and Annual Progress Reports and Meetings

As discussed, Midwest Generation proposes to provide quarterly and annual progress reports to the Agency, as well as to meet with the Agency if the Agency so requests. The quarterly reports and any meetings would cover actions taken related to compliance with the variance and the company's progress toward compliance with the 2017 CPS SO₂ emission rate. The annual progress reports would describe work completed on the Trona systems and PM controls, as well as work projected for the following year and whether such projects have been included in the next year's budget. Additionally, the first quarterly progress report would discuss the compliance scenarios outlined in the post-hearing brief, including Exhibit C to that brief.

Post Br. Exhs. A, B. Midwest Generation states that the reports and meetings are intended to provide the Board with assurance that Midwest Generation “is and will remain on track to comply with the 2017 CPS emission rate.” Post Br. at 16.

Annual SO₂ Mass Emissions Caps

Where the Citizens Groups question how Midwest Generation intends to meet the proposed 2015 and 2016 SO₂ mass emission limits with heat input reductions equivalent to closing a quarter of Midwest Generation’s fleet, Midwest Generation reiterates its plans. Reply Br. at 5. To achieve the 2015 and 2016 proposed mass emission caps, the company plans to undertake one or more of the following actions: “over-comply” with the proposed emission rates (*i.e.*, achieve lower rates); use low sulfur coal; curtail generation; or shut down units. *Id.*, referring to Post Br. at 15-20.

The Citizens Groups’ calculations are based upon subtracting the projected 2016 heat input from the projected 2013 heat input: $259,090,909 - 194,736,842 = 64,354,067$ mmBtu. Dividing that result by the 2013 projected heat input gives the ratio of the 2016 to 2013 heat input of about 25%: $64,354,067 / 194,736,842 = .248$ or 25%. Some of the reduction in heat input could be attributed to planned outages during ESP upgrades. Additionally, the Board notes that basing heat input on the proposed SO₂ caps is dependent upon the sulfur content of the coal. Midwest Generation can adjust the heat input necessary to meet the proposed SO₂ mass emission caps by varying the sulfur content of the coal blend. Midwest Generation stated that it continuously evaluates its coal mix to ensure compliance and that the use of ultra-low sulfur coal is part of Midwest Generation’s strategy to comply with the CPS system-wide SO₂ emission rates, particularly in the early years for units where Trona systems have not been installed.

The Board emphasizes that Midwest Generation must report to the Agency its system-wide mass SO₂ emissions for 2013, 2014, 2015, and 2016 with each applicable Annual Emissions Report. For example, by May 1, 2014, Midwest Generation must report its system-wide mass SO₂ emissions to the Agency for 2013 with the company’s Annual Emissions Report.

The annual SO₂ mass emission caps apply “system-wide,” which for the purposes of the variance would entail the only following nine coal-fired units: Joliet Units 6, 7, and 8; Powerton Units 5 and 6; Waukegan Units 7 and 8; and Will County Units 3 and 4. To avoid any uncertainty, the Board adds a condition stating that to the extent any other units specified in the CPS Group (35 Ill. Adm. Code 225.Appendix A) could operate, no such other coal-fired units are allowed to operate from the date of this order through December 31, 2016. This added language is especially warranted as Midwest Generation would receive variance relief from Section 225.295(b), which applies to the CPS Group, meaning all coal-fired units specified in Appendix A of Part 225. *See* 35 Ill. Adm. Code 225.292.

Ceasing Operations at Crawford Units 7 and 8

The Citizens Groups argue that Midwest Generation’s commitment not to operate Crawford Units 7 and 8 under the variance should not be considered as contributing to any environmental benefit. The Citizens Groups state that Midwest Generation has already begun

dismantling the stack at the Crawford Station, and should not be able to credibly claim that the units can still be legally operated. The Citizens Groups assert that the company will not be operating Crawford Units 7 and 8 regardless of whether the variance is granted. PC 5728 at 12-13.

In reviewing the data presented by Midwest Generation, the Agency concluded that the emission reduction credits that Midwest Generation used to propose the mass emission limitations are “quantifiable and creditable.” Agency Rec. at 8. This includes credits for the early shutdown of Crawford Units 7 and 8. The Board previously considered SO₂ emission reductions due to unit shutdowns in analyzing the environmental impact of a requested variance. See Waukegan Order, slip op. at 16.

The Board finds it appropriate to impose conditions to account not only for the interim SO₂ emission rates and mass emission caps, but also for not operating the Crawford Units 7 and 8 in 2013 and 2014. Because there is no requirement in the CPS or any Board order that these two units remain inactive in 2013 and 2014, the SO₂ emission reductions achieved through not operating Crawford Units 7 and 8 in those two years are properly credited to the variance.

CONCLUSION

To grant a variance, the Board must decide whether there has been a “presentation of adequate proof” that “compliance with any rule or regulation, requirement or order of the Board would impose an arbitrary or unreasonable hardship.” 415 ILCS 5/35(a) (2010). Even then, the Board may grant a variance only to the extent consistent with applicable federal law. *Id.* After carefully analyzing this record, the Board finds that Midwest Generation has demonstrated that requiring timely compliance with the CPS Group average annual SO₂ emission rates in Section 225.295(b) (35 Ill. Adm. Code 225.295(b)) for 2015 and 2016, and requiring that Waukegan Unit 8 either have installed and operational FGD equipment, or be permanently shut down, by December 31, 2014, will impose an arbitrary or unreasonable hardship on the company. The Board also finds that variance relief from these CPS requirements can be granted consistent with federal law and that Midwest Generation’s revised compliance plan, as modified by the Board, is adequate for requiring progress toward timely compliance with the CPS 2017 SO₂ emission rate.

Accordingly, the Board grants Midwest Generation a variance from the following:

- The CPS Group average annual SO₂ emission rates of 0.28 lb/mmBtu in 2015 and 0.195 lb/mmBtu in 2016, set forth in 35 Ill. Adm. Code 225.295(b), until January 1, 2017, at which point the CPS emission rates of 35 Ill. Adm. Code 225.295(b) apply, beginning with 0.15 lb/mmBtu for 2017; and
- The requirement to install and have operational FGD equipment on, or permanently shut down, Waukegan Unit 8 by December 31, 2014, set forth in Section 35 Ill. Adm. Code 225.296(a)(2), for a period of five months, *i.e.*, until May 31, 2015, at which point Waukegan Unit 8 must have FGD equipment installed and operational or be permanently shut down.

The variance relief here is subject to numerous conditions in the order below, including the following:

- Midwest Generation must meet an average annual SO₂ emission rate of 0.38 lb/mmBtu for 2015 and 2016;
- Midwest Generation must meet an annual declining SO₂ mass emissions caps for 2013 through 2016 of 57,000 tons, 54,000 tons, 39,000 tons, and 37,000 tons, respectively;
- Though Crawford Units 7 and 8 ceased operation in 2012 and, pursuant to the Waukegan Order, must permanently shut down by the end of 2014, today's order further requires that these units stay out of operation until their permanent shutdown;
- Both Waukegan Unit 7 and Powerton Unit 6 must have installed and operational FGD equipment and related ESP upgrades by the end of 2014.

The Board finds that based upon the record, this compliance plan will result in a netreduction of SO₂ and other pollutant emissions from 2013 through 2016.

The Board denies as unnecessary Midwest Generation's request for relief from Condition 1(a) of the Waukegan Order. Condition 1(a) only requires compliance with Section 225.295(b) during the one-year variance period of the Waukegan Order, *i.e.*, from December 31, 2013 through December 31, 2014. Because Midwest Generation proposes to comply with Section 225.295(b) in 2013 and 2014, the company does not need relief from the Condition 1(a) requirement.

Although the Board grants Midwest Generation's request for variance from the CPS regulations at issue, the Board is cognizant that Midwest Generation is receiving its second grant of variance relief from the CPS in less than a year. Of course, these grants delay regulatory requirements that were adopted as a direct result of the joint request made by Midwest Generation and the Agency during the Board's R06-26 CAIR rulemaking. Further, the CPS is itself "an alternative to compliance with the emissions standards of Section 225.230(a)" into which Midwest Generation opted. 35 Ill. Adm. Code 225.292(a), referring to 35 Ill. Adm. Code 225.230(a). Midwest Generation has therefore been given multiple opportunities to comply with SO₂ emission requirements.

This opinion constitutes the Board's findings of fact and conclusions of law.

ORDER

1. The Board denies Midwest Generation, LLC (Midwest Generation) a variance from Condition 1(a) of the variance granted in Midwest Generation, LLC - Waukegan Generating Station v. IEPA, PCB 12-121 (Aug. 23, 2012).
2. The Board grants Midwest Generation a variance from the following:

- A. The requirement of Section 225.295(b) of the Combined Pollutant Standard (CPS) (35 Ill. Adm. Code 225.295(b)) that the CPS Group comply with the average annual sulfur dioxide (SO₂) emission rates of 0.28 lb/mmBtu in 2015 and 0.195 lb/mmBtu in 2016. This relief lasts until January 1, 2017.
 - B. The requirement of Section 225.296(a)(2) of the CPS (35 Ill. Adm. Code 225.296(a)(2)) that by December 31, 2014, Waukegan Unit 8 either be permanently shut down or have installed and operational flue gas desulfurization (FGD) equipment. This relief lasts until May 31, 2015.
3. The variance granted under Paragraph 2 of this Order is subject to the following Conditions:
- A. From April 4, 2013 through December 31, 2014, Midwest Generation must not operate coal-fired Unit 7 or 8 at the Crawford Station.
 - B. By December 31, 2014, for both Waukegan Unit 7 and Powerton Unit 6, Midwest Generation must install and have operational FGD equipment and related electrostatic precipitator (ESP) upgrades.
 - C. From January 1, 2013 through December 31, 2013, Midwest Generation must limit system-wide emissions of SO₂ to no more than 57,000 tons. For the purposes of this variance, “system-wide” entails the following coal-fired units: Joliet Units 6, 7, and 8; Powerton Units 5 and 6; Waukegan Units 7 and 8; and Will County Units 3 and 4. To the extent any other units specified in the CPS Group (35 Ill. Adm. Code 225.Appendix A) could operate, no such other coal-fired units are allowed to operate from April 4, 2013 through December 31, 2016.
 - D. Beginning with the second quarter of 2013 and continuing through the fourth quarter of 2016, Midwest Generation must submit quarterly progress reports to the Illinois Environmental Protection Agency (Agency) within two weeks following the end of each calendar quarter, and upon request, meet with the Agency to apprise the Agency of actions taken related to compliance with the variance, and in particular Midwest Generation’s progress toward compliance with the 2017 SO₂ emission rate of 35 Ill. Adm. Code 225.295(b). In the first quarterly report, Midwest Generation must discuss the compliance scenarios outlined in its post-hearing brief filed with the Board on February 19, 2013, in docket PCB 13-24, including Exhibit C to that brief. Midwest Generation’s quarterly reports must include an itemization of activities completed during the quarter, activities planned to be completed in the forthcoming quarter, and progress of projects to comply with the deadlines specified in these Conditions.

- E. By December 31 of each year from 2013 through 2016, Midwest Generation must submit annual progress reports to the Agency generally describing the work completed that year (*i.e.*, the progress report due by December 31, 2013, must describe work completed in 2013) and progress made to comply with the deadlines specified in these Conditions. The annual progress report must also include a general description of the activities related to installation of the Trona systems and related particulate matter (PM) control work that Midwest Generation anticipates will be conducted the following year, including the status of the engineering for the projects and whether such projects have been included in the year's budgeting.
- F. Midwest Generation must submit quarterly and annual progress reports under Conditions 3(D) and 3(E) above 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: Dana Vetterhoffer, Assistant Counsel
Division of Legal Counsel - Air Regulatory Unit
1021 N. Grand Ave. East
P.O. Box 19276
Springfield, IL 62794-9276
- G. From January 1, 2014 through December 31, 2014, Midwest Generation must limit system-wide emissions of SO₂ to no more than 54,000 tons.
- H. By May 1, 2014, Midwest Generation must report to the Agency its system-wide mass SO₂ emissions for 2013 with its Annual Emissions Report.
- I. By December 31, 2014, Midwest Generation must inform the Agency of the company's selected approach for achieving compliance with the 2017 SO₂ emission rate of 35 Ill. Adm. Code 225.295(b) (Compliance Scenario), including any emission controls that Midwest Generation will implement.
- J. By January 1, 2015, Midwest Generation must initiate preliminary engineering and project planning for the installation of all emission controls identified in its Compliance Scenario under Condition 3(I).

- K. On January 1, 2015, and thereafter until completion of installation of FGD equipment on Waukegan Unit 8, Midwest Generation must not operate Waukegan Unit 8.
- L. From January 1, 2015 through December 31, 2016, Midwest Generation must comply with a system-wide average annual SO₂ emission rate of 0.38 lb/mmBtu.
- M. From January 1, 2015 through December 31, 2015, Midwest Generation must limit its system-wide mass emissions of SO₂ to no more than 39,000 tons.
- N. By March 31, 2015, Midwest Generation must file permit applications, as necessary, for the installation of any emission controls identified in its Compliance Scenario under Condition 3(I).
- O. By May 1, 2015, Midwest Generation must report to the Agency its system-wide mass SO₂ emissions for 2014 with its Annual Emissions Report.
- P. By May 31, 2015, Midwest Generation must have completed the installation of and have operational FGD equipment on Waukegan Unit 8 or have permanently shut down the unit.
- Q. By December 31, 2015, Midwest Generation must commence construction of all emission controls identified in its Compliance Scenario under Condition 3(I).
- R. By May 1, 2016, Midwest Generation must report to the Agency its system-wide mass SO₂ emissions for 2015 with its Annual Emissions Report.
- S. From January 1, 2016 through December 31, 2016, Midwest Generation must limit its system-wide mass emissions of SO₂ to no more than 37,000 tons.
- T. By May 1, 2017, Midwest Generation must report to the Agency its system-wide mass SO₂ emissions for 2016 with its Annual Emissions Report.
- U. From January 1, 2017 through December 31, 2017, Midwest Generation must comply with the rate set forth in Section 225.295(b) of the CPS (35 Ill. Adm. Code 225.295(b)) for 2017 of 0.15 lb/mmBtu.
- V. Continuously during the period of the variance, Midwest Generation must do the following:

- i. Comply with the Clean Air Interstate Rule (CAIR) and any replacement rule for CAIR.
- ii. Comply with the Acid Rain Program at 40 C.F.R. 72.
- iii. Comply with all other applicable requirements.
- iv. Upon the Agency's request, promptly provide the Agency with additional information related to the Compliance Scenario under Condition 3(I).
- v. Notify the Agency promptly if completion of the Trona system installations and associated PM controls necessary for compliance with the CPS becomes infeasible.

IT IS SO ORDERED.

Member D. Glosser concurred.

Chairman T.A. Holbrook abstained.

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 the Agency 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 on the next page:

CERTIFICATE OF ACCEPTANCE

I (We), _____, having read the opinion and order of the Illinois Pollution Control Board in docket PCB 13-24, dated April 4, 2013, 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: MIDWEST GENERATION, LLC

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 opinion and order on April 4, 2013, by a vote of 4-0.



John Therriault, Assistant Clerk
 Illinois Pollution Control Board

**Attachment A - Hearing Commenters in Support of
Midwest Generation's Requested Variance**

The following list consists of commenters who supported the variance request of Midwest Generation, LLC at the Board's public hearing. The commenter's name appears on the left, with the citation to the hearing transcript appearing on the right.

| <u>Name</u> | <u>Transcript Page Number</u> |
|---|--------------------------------------|
| Senator Pat McGuire, 43rd District | 7 |
| Representative Larry Walsh, Jr., 86th District | 9 |
| Larry Walsh, Chief Executive Officer, Will County | 12 |
| Michael Carrigan, President, Illinois AFL-CIO | 15 |
| Terry Goldrick, Vice President, International Brotherhood of Electrical Workers Local 15 | 88 |
| Tom Wolf, Executive Director, Energy Council, Illinois Chamber of Commerce | 92 |
| Jerry Caamano, Executive Director, Three Rivers Manufacturing Association | 94 |
| Russ Slinkard, President and Chief Executive Officer, Joliet Region Chamber of Commerce and Industry | 97 |
| Mike Hennessey, on behalf of United Way of Will County | 99 |
| Robert Schwartz, President, Boilermakers Union , and on behalf of Will-Grundy Building Trades Council | 105 |
| John Kennedy, Senior Vice President of Generation, Midwest Generation | 137 |
| William Naglosky, Station Director, Joliet Generating Station | 140 |
| William Burke, Director of Procurement and Supply Chain Management, Midwest Generation | 142 |
| Scott Perry, Plant Director, Will County Generating Station | 143 |
| Sabrina Lee, Employee, Midwest Generation | 182 |
| Tom Lambert | 185 |
| Scott DeGroate, Owner, DeGroate Petroleum Services | 187 |
| Don Gregory, Vice-President, Will-Grundy Building Trades Council, and Business Representative, Pipefitters 597 | 190 |
| James Harrod, on behalf of Hayes Mechanical | 199 |
| James Thorne | 207 |

**Attachment B - Hearing Commenters Opposing
Midwest Generation's Requested Variance**

The following list consists of commenters who opposed the variance request of Midwest Generation, LLC at the Board's public hearing. The commenter's name appears on the left, with the citation to the hearing transcript appearing on the right.

| <u>Name</u> | <u>Transcript Page Number</u> |
|--|--------------------------------------|
| Antonio Franco, Co-Chair, Student Group, Joliet Junior College | 90 |
| Gail Snyder | 101 |
| Susan Klen | 108 |
| Mike Johnson, on behalf of Greenpeace | 110 |
| Faith Bugel, on behalf of Environmental Law and Policy Center | 144 |
| Andrew Armstrong, on behalf of Environmental Law and Policy Center | 148 |
| Susie Shutts, on behalf of Natural Resources Defense Council | 150 |
| Sandy Burcenski, Member, Citizens Against Ruining the Environment | 155 |
| Verena Owen, Volunteer, Sierra Club | 157 |
| Barbara Klipp, on behalf of Incinerator Free Lake County | 162 |
| Tracy Fox, Member, Peoria Families Against Toxic Waste | 165 |
| Brian Urbaszewski, on behalf of Respiratory Health Association | 172 |
| Judy Weimer | 177 |
| Temeka Gibson, on behalf of Illinois Environmental Council | 179 |
| Joyce Blumenshine | 182 |
| Kathy Kaiser, Member, Cool Joliet | 188 |
| Jennifer McElroy, Member, Citizens Against Ruining the Environment | 191 |
| Jerry Mead-Lucero, on behalf of Pilsen Environmental Rights and Reform Organization | 192 |
| Kimberly Rowan, Director, Illinois Student Environmental Coalition | 195 |
| Randy Juras, on behalf of the Homer Glen Environmental Committee | 201 |
| Mary Burnitz, on behalf of Ardis Doolin | 203 |
| Edyeta Sitko, on behalf of Greenpeace | 209 |
| Marvin Pickering | 212 |
| Ellen Rendulich, on behalf of Citizens Concerning the Environment | 215 |
| Mary Burnitz | 218 |

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

| | | |
|---------------------------------|---|-------------------------|
| MIDWEST GENERATION, LLC, |) | |
| |) | |
| Petitioner, |) | |
| |) | |
| v. |) | PCB 13-24 |
| |) | (Variance – Air) |
| ILLINOIS ENVIRONMENTAL |) | |
| PROTECTION AGENCY, |) | |
| |) | |
| Respondent. |) | |

CERTIFICATE OF ACCEPTANCE

Pursuant to the Board's April 4, 2013, Order in this matter and 35 Ill. Adm. Code § 104.240, Petitioner, MIDWEST GENERATION, LLC hereby accepts the Board's grant of the requested variance with the terms and conditions included in the Board's Order. The Certificate of Acceptance, executed by Mr. Douglas R. McFarlan, President of Midwest Generation, LLC, is attached hereto.

Respectfully submitted,

MIDWEST GENERATION, LLC

by:



 One of Its Attorneys

Dated: May 17, 2013

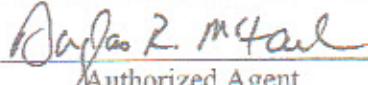
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Christopher M. Foley
Managing Director and Senior Counsel
Midwest Generation EME, LLC
500 West Madison Street, Suite 2640
Chicago, Illinois 60661
312-583-6003

CERTIFICATE OF ACCEPTANCE

I (We), MIDWEST GENERATION, LLC, having read the opinion and order of the Illinois Pollution Control Board in docket PCB 13-24, dated April 4, 2013, 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: MIDWEST GENERATION, LLC

By: 
Authorized Agent

Title: PRESIDENT

Date: MAY 16, 2013

CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 17th day of May, 2013, I have served electronically the attached **MIDWEST GENERATION'S CERTIFICATE OF ACCEPTANCE OF THE VARIANCE**, upon the following persons:

John T. Therriault, Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
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100 West Randolph
Chicago, Illinois 60601

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Assistant Counsel
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