

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 12, 2012

Midwest Generation)	
Joliet 9, Joliet 29, and Will County Stations)	
)	
)	
)	
Petitioner,)	
)	
v.)	IEPA – 12-20
)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

Re: Extension of Provisional Variance From Thermal Limits Contained in Joliet Station 9 NPDES Permit IL0002216; Joliet Station 29 NPDES Permit No. IL0064254; Will County Station NPDES Permit No. IL0002208.

Dear Mr. Claybaugh:

On July 3, 2012, the Illinois Environmental Protection Agency (Agency) granted a provisional variance (Exhibit A) (“July 3 Provisional Variance”) to Midwest Generation for its Joliet Station 9, Joliet Station 29, and Will County Station. The July 3 Provisional Variance ends no later than July 13, 2012. On July 10, 2012, Midwest Generation submitted a request for an extension to the July 3 Provisional Variance (Exhibit B) and supplemented the extension request with additional information submitted July 12, 2012 (Exhibit C).

Midwest Generation requests that the terms and conditions of its July 3 Provisional Variance, issued with regard to thermal limits contained in NPDES Permit Numbers IL0002216, IL0064254, and IL0002208, be extended through July 23, 2012, so that Midwest Generation can continue operating through this unusually hot and dry period of weather which has resulted in high river temperatures.

Based on its review, the Agency GRANTS Midwest Generation an extension to its July 3 Provisional Variance, subject to the specific conditions set forth below.

Background

The generating units at each of Midwest Generation's stations are coal-fired, and each utilizes an open cycle, once-through condenser cooling system. The Midwest Generation Stations are steam-electric generating processes that require the use of large volumes of surface water. Basic facts and location of the three Midwest Generation stations subject of the provisional variance remain unchanged from the July 3 Provisional Variance.

However, some operational changes have been put into place as a result of the weather conditions that led to the July 3 Provisional Variance. The Will County Station, while not equipped with cooling towers, has been reduced in load since sometime during the initial provisional variance period beginning July 3, 2012. Joliet Station 9 is not equipped with cooling towers. Joliet Station 29 is equipped with cooling towers that are capable of cooling approximately one-third of Units 7 & 8's total design discharge. Joliet Station 29 was operated at a reduced load during the period of the July 3 Provisional Variance.

Joliet 9, Unit 6 was first derated from July 3, to July 7 and then cycled offline from the afternoon of July 7 to the afternoon of July 9 in order to keep water temperatures at the I-55 Bridge under 96° F. Midwest Generation continues to operate Unit 6 at a reduced capacity as of the July 12 supplement to the July 10 extension request.

All of these facilities are operated on a daily load cycle which matches electrical demand needs and provides power into the PJM Interconnection, a regional transmission organization that coordinates the movement of wholesale electricity in Northern Illinois, and all or parts of 13 states and the District of Columbia. The PJM region has an area of 214,000 square miles, and a population of about 60 million.

Relief Requested

With the provisional variance extension request, Midwest Generation seeks a provisional variance from the thermal limits at the I-55 Bridge, contained in Joliet Station 9 NPDES Permit IL0002216; Joliet Station 29 NPDES Permit No. IL0064254; and Will County Station NPDES Permit No. IL0002208, continuing on July 13, 2012, and continuing through July 23, 2012. More specifically, Midwest Generation has requested an increase in the maximum thermal adjusted standard from 93° F to 96° F, as well as a suspension of the counting of excursion hours for periods when the I-55 Bridge temperature exceeds 91° F.

Special Condition 5 in Joliet Station 9 and Joliet Station 29 NPDES permits, and Special Condition 6, in Will County's NPDES permit provide in pertinent part:

[E]ffluent shall not alone or in combination with other sources cause temperatures in the main channel of the Lower Des Plaines River at the I-55 Bridge to exceed the temperatures set forth in the following table, except in accordance with allowable monthly excursions detailed below:

... July ... Aug. ... Sept ...
91 91 90

These standards may be exceeded by no more than 3° F during 2% of the hours in the 12-month period ending December 31, *except that at no time shall Midwest Generation's plants cause the water temperature at the I-55 Bridge to exceed 93° F* (emphasis added).

According to the provisional variance request, the water temperature will not exceed 96° F at the I-55 Bridge.

Special Condition 6 in Joliet Station 9 and Joliet Station 29 NPDES permits, and Special Condition 7, in Will County's NPDES permit provide:

Permittee shall comply with all temperature limitations as imposed by the Pollution Control Board's order in AS 96-10, dated October 3, 1996.

In addition, Midwest Generation requests that "the Agency grant additional excursion hours to be available for use by [Midwest Generation] upon the termination of the requested extension of the July 3 Provisional Variance. [Midwest Generation] requests that these permitted excursion hours be reinstated upon their exhaustion."

Necessity for Request

According to Midwest Generation, the current summer weather pattern is continuing to greatly impacting the ability to maintain compliance with the existing thermal limitations which cover the MWG generating stations identified above. Prior to the July 3 Provisional Variance, Midwest Generation had 123.25 excursion hours available at the I-55 Bridge. Over the course of the July 3 Provisional Variance, Midwest Generation consumed 86.75 excursion hours, leaving 36.5 excursion hours.

With several days of air temperatures at or over 100° F last week, and the weather forecast calling for more temperatures in the high 90's-100's later this week and into the next, the ability to continue to provide needed power under these increasingly adverse circumstances is becoming further jeopardized.

Additionally, Midwest Generation states that because of the unusually hot, dry weather, the river intake temperatures are continuing to climb and the capacity of the waterway to dissipate heat continues to be greatly reduced. Higher dew points are also compromising the effectiveness of the helper cooling towers at Joliet Station 29. In addition, the hot weather is creating unusually high demand for electricity to support human health and safety needs, as well as the many businesses and households which rely on power through the PJM Interconnection.

Midwest Generation says that without the relief requested, the Joliet units, and possibly the Will County units, are in jeopardy of needing to shut down completely in order to attempt to meet the 93° F maximum I-55 thermal limit, which may not even be possible due to the current adverse ambient waterway and weather conditions. Midwest Generation reports that a shut down in lieu of the requested extension would result in operational problems and potential safety risks, as detailed in the original request for the provisional variance dated July 3, 2012.

Alternatives to Requested Relief

Midwest Generation states that given the considerations detailed above, the only alternative method of compliance is to shutdown Joliet Stations 9 and 29 (Units 6, 7 and 8) and the Will County Units 3 and 4, as these are the only Midwest Generation stations which have a potential impact on I-55 Bridge water temperatures. (Midwest Generation notes that previous proceedings and thermal modeling has determined that any potential thermal impacts from the Fisk or Crawford Stations have dissipated prior to reaching Will County).

Environmental Impacts

Midwest Generation states that “no adverse impacts on aquatic life in the Lower Des Plaines River” have occurred since the issuance of the July 3 Provisional Variance. Midwest Generation has also stated that there should not be any significant environmental impact during the course of this provisional variance extension, beginning July 13, 2012 and ending July 23, 2012.

Agency Determinations

The Agency has reviewed the requested provisional variance and has concluded the following:

1. Any environmental impact from the requested relief shall be closely monitored, and the Agency shall be immediately notified of any adverse impacts.
2. No reasonable alternatives appear available;
3. No public water supplies should be affected;
4. The Agency is not authorized to grant additional excursion hours or reinstate excursion hours previously held by Midwest Generation;
5. No federal regulations will preclude the granting of this request; and
6. Midwest Generation will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Agency hereby GRANTS Midwest Generation's Will County and Joliet Stations 9 and 29 an extended provisional variance from the thermal limits indicated in Special Conditions 6 and 7 of the Will County NPDES Permit No. IL0002208, Special Conditions 5 and 6 of the Joliet Unit 6 (Station 9) NPDES Permit No. IL0002216, and Special Conditions 5 and 6 of Joliet Units 7 & 8 (Station 29) NPDES Permit No. 0064254, subject to the following conditions:

- A. The term of this provisional variance begins (1) for excursion hours: when all permitted excursion hours have been exhausted; (2) for maximum temperature limits: when the temperature exceeds 93° F. This provisional variance extension is based on the facts provided by Midwest Generation in the request for extension dated July 10, 2012 and the supplement to the request for extension dated July 12, 2012. The term of this provisional variance shall begin on July 13, 2012 and end no later than July 23, 2012. If the facts and circumstances described in the requests dated July 10, 2012 and July 12, 2012 abate the term of this provisional variance will end.
- B. Midwest Generation shall provide the best operation of its available equipment to produce the best effluent possible at all times during the term of this provisional variance. At no time shall the water temperature in the main channel of the Lower Dew Plains River at the I-55 Bridge to exceed a temperature of 96° F during the term of this provisional variance.
- C. Midwest Generation must continuously monitor discharge and receiving water temperatures and visually inspect all discharge areas, including at the I-55 Bridge, at least four times per day to assess any mortalities to fish and other aquatic life. This monitoring shall occur during the period of the provisional variance and shall continue for a minimum of four days after the provisional variance expires.
- D. Midwest Generation shall document environmental conditions during the term of the provisional variance, including the activities described in item C. of this Section, and submit the documentation to the Agency and the Illinois Department of Natural Resources ("Illinois DNR") within seven (7) days after this provisional variance expires.
- E. Midwest Generation shall immediately notify the Agency and Illinois DNR of any unusual conditions, including mortalities of fish or other aquatic life, immediately take action to remedy the problem, investigate and document the cause and seriousness of the unusual conditions while providing updates to the Agency and Illinois DNR as changes occur until normal conditions return; notify the Agency and Illinois DNR when normal conditions return and submit the documentation to the Agency and Illinois DNR within seven (7) days after normal conditions return.

- F. Midwest Generation shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions that could result from the provisional variance, including loss and damage to aquatic life.
- G. Midwest Generation shall notify Roger Callaway, Illinois Environmental Protection Agency, by telephone at 217-782-9720 when the period of this provisional variance extension begins and ends. Written confirmation shall be sent within five days after the discharge specified in this provisional variance ends to the following address:

Illinois Environmental Protection Agency
Bureau of Water - Water Pollution Control
Attention: Roger Callaway
1021 North Grand Avenue East, CAS #19
Springfield IL 62794-9276

- H. Midwest Generation shall sign a certificate of acceptance of this provisional variance and forward that certificate to Roger Callaway at the address indicated above within one day of the date of this provisional variance.

The certification should take the following form:

I (We) _____, hereby accept and agree to be bound by all terms and conditions of the provisional variance granted by the Agency in _____ dated _____.

Petitioner

Authorized Agent

Title

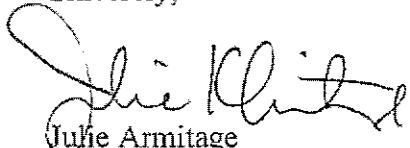
Date

- I. Midwest Generation shall continue to monitor all parameters and comply with all other conditions specified in Joliet Station 9 NPDES Permit IL0002216; Joliet Station 29 NPDES Permit No. IL0064254; and Will County Station NPDES Permit No. IL0002208.

Conclusion

The Agency grants this provisional variance extension in accordance with its authority contained in Sections 35(b), 36 (c), and 37(b) of the Illinois Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2010). The decision to grant this provisional variance is not intended to address compliance with any other applicable laws or regulations. In addition, this provisional variance extension does not grant additional excursion hours to Midwest Generation or reinstate excursion hours previously held by Midwest Generation.

Sincerely,



Julie Armitage
Acting Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Chad Kruse

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 3, 2012

Midwest Generation)	
Joliet 9, Joliet 29, and Will County Stations)	
)	
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Petitioner,)	
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v.)	IEPA – 12-20
)	(Provisional Variance-Water)
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
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Respondent.)	

Re: Provisional Variance From Thermal Limits Contained in Joliet Station 9 NPDES Permit IL0002216; Joliet Station 29 NPDES Permit No. IL0064254; Will County Station NPDES Permit No. IL0002208.

Dear Mr. Claybaugh:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance request, dated July 3, 2012 (Attachment A) submitted by Midwest Generation for its Joliet Station 9, Joliet Station 29, and Will County Station. Because of extremely hot weather conditions and the resulting maximum customer demand for electricity needed for cooling Midwest Generation has requested a provisional variance from the thermal limits at the I-55 Bridge in the Lower Des Plaines River contained in these stations' NPDES permits.

Based on its review, the Agency GRANTS Midwest Generation a provisional variance from thermal limits at the I-55 Bridge for its Joliet Station 9, Joliet Station 29, and Will County Station, subject to the specific conditions set forth below.

Background

The generating units at each of Midwest Generation's stations are coal-fired, and each utilizes an open cycle, once-through condenser cooling system. The Midwest Generation Stations are steam-electric generating processes that require the use of large volumes of surface water.

The Will County Station is located in Romeoville at River Mile 295.5 on the Chicago Sanitary and Ship Canal, and is a two-unit steam electric facility with an 897 megawatts

production capacity and a design circulating water flow rate of approximately 864 Million Gallons per Day ("MGD"). The Will County Station is not equipped with cooling towers.

The Joliet Station 9 and Joliet Station 29 are located in Will County, Illinois, approximately one mile southwest of the City of Joliet, Illinois, which discharge wastewater, including cooling water, into the adjacent Lower Des Plaines River at locations approximately seven miles north of the I-55 Bridge pursuant to the NPDES Permits described above. Joliet Station 9 is on the east bank of the river and Joliet Station 29 is on the west bank. Both of these thermal discharges flow into the lower Des Plaines River approximately one-half mile downstream of the Brandon Road Lock and Dam between River Miles 285 and 284. Both stations utilize open cycle, once-through condenser cooling systems.

Joliet Station 9 has a single generation unit, Unit 6. It is capable of producing 341 megawatts of electricity and has a design circulating water flow rate of approximately 376 MGD. The design maximum temperature rise in the circulating cooling water is approximately 10.7°F. Joliet Station 9 is not equipped with cooling towers.

Joliet Station 29 has two generation units, Unit 7 and Unit 8. Units 7 and 8 are capable of producing approximately 1100 megawatts, with a design circulating water flow rate of approximately 1325 MGD. The design maximum temperature rise in the circulating cooling water is approximately 12.4° F. The Joliet Station 29 is equipped with cooling towers, referred to as "helper cooling towers" because they are not designed for long-term, continuous runs. They are capable of cooling approximately one-third of Units 7 & 8's total design discharge.

All of these facilities are operated on a daily load cycle which matches electrical demand needs and provides power into the PJM Interconnection, a regional transmission organization that coordinates the movement of wholesale electricity in Northern Illinois, and all or parts of 13 states and the District of Columbia. The PJM region has an area of 214,000 square miles, and a population of about 60 million.

Due to the widespread heat and drought conditions throughout the Midwest, there are many power producers which supply the PJM system that either are currently impacted or will be, given the long-range forecast for extended high air temperatures. As facility operations succumb to heat-related equipment failures and continued compliance challenges which limit their ability to provide needed power to the grid, the necessity for regulatory relief in the form of a provisional variance will become increasingly critical. This is already apparent with PJM's issuance of a Hot Weather Alert for the entire PJM RTO for July 4th and 5th, 2012. Temperatures are expected to approach 100 degrees in Illinois. Midwest Generation notes that over one hundred thousand people lost service in Chicago and over a million are still without power throughout PJM due to recent storms. As reconnections proceed over the next few days, a significant increase in demand is expected.

Relief Requested

Midwest Generation seeks a provisional variance from the thermal limits at the I-55 Bridge, contained in Joliet Station 9 NPDES Permit IL0002216; Joliet Station 29 NPDES Permit No. IL0064254; and Will County Station NPDES Permit No. IL0002208, beginning on July 4, 2012, and continuing through July 13, 2012. More specifically, Midwest Generation has requested an increase in the maximum thermal adjusted standard from 93° F to 96° F, as well as a suspension of the counting of excursion hours for periods when the I-55 Bridge temperature exceeds 91° F.

Special Condition 5 in Joliet Station 9 and Joliet Station 29 NPDES permits, and Special Condition 6, in Will County's NPDES permit provide in pertinent part:

[E]ffluent shall not alone or in combination with other sources cause temperatures in the main channel of the Lower Des Plaines River at the I-55 Bridge to exceed the temperatures set forth in the following table, except in accordance with allowable monthly excursions detailed below:

... July ...	Aug. ...	Sept ...
91	91	90

These standards may be exceeded by no more than 3° F during 2% of the hours in the 12-month period ending December 31, *except that at no time shall Midwest Generation's plants cause the water temperature at the I-55 Bridge to exceed 93° F* (emphasis added).

According to the provisional variance request, the water temperature will not exceed 96° F at the I-55 Bridge.

Special Condition 6 in Joliet Station 9 and Joliet Station 29 NPDES permits, and Special Condition 7, in Will County's NPDES permit provide:

Permittee shall comply with all temperature limitations as imposed by the Pollution Control Board's order in AS 96-10, dated October 3, 1996.

Necessity for Request

During this time of extremely hot air temperatures of up to 100° F each day, with little overnight relief, coupled with prolonged drought conditions in Northern Illinois, the alternate I-55 thermal water quality standards currently in effect cannot consistently be met, even with the current measures already taken by Midwest Generation to maintain compliance, including derating of Joliet Unit 6 down to minimum load during periods of low river flows and increased intake temperatures. Intake temperatures are expected to keep increasing given the prolonged low flows in the entire waterway system and continued high air temperatures. On July 3, 2012, the intake temperature at Will County

Station had already exceeded 86 ° F on several occasions, while intake temperatures at Joliet Unit 6 have gone over 90° F for hours at a time. With air temperatures predicted to stay in a dangerously high range through Saturday, July 7, and possibly longer, the demand for electricity to support human health and safety needs will increase, along with the physical constraints and limitations on power production and distribution brought about by these same extremely hot, dry conditions.

Midwest Generation says that without the relief requested, the Joliet units, and possibly the Will County units, are in jeopardy of needing to shut down completely in order to attempt to meet the 93° F maximum I-55 thermal limit, which may not even be possible due to the current adverse ambient waterway and weather conditions. Midwest Generation reports that this would result in the following operational problems and potential safety risks involved, as detailed below:

Safety – Midwest Generation states that during a river thermal event, unit load is reduced quickly to maintain I-55 temperature compliance. In certain cases, a unit may have to be cycled off. Because of the short notification required prior to shutdown, coal handling systems cannot be completely purged out. This is a hazard because of the volatile nature of Powder River Basin coal to spontaneously combust and act as an ignition source. Because coal bunkers, reclaim feeders and coal preparation equipment cannot be completely purged out when a short notice shut down is required, there is increased risk of an explosion or fire upon restart of the non-purged equipment. A crusher house explosion and fire that occurred at Joliet Station in April 2012 followed a period when Joliet Station was shutdown in late March for river temperature compliance, without the necessary time to purge out the coal handling and transport system. This required emergency response of fire service personnel from at least five jurisdictions. Events such as these put power plant workers and the fire service employees at risk of injury and or loss of life. The current high ambient outside temperature and humidity accelerates the spontaneous combustion phenomenon.

Effects of unit cycling – According to Midwest Generation, any time a steam unit is either started or shut down, a thermal cycle is incurred which results in thermal stresses through thick walled components such as boiler headers, boiler tubes, turbine casings and rotors. Cycling results in decreased equipment reliability and increased costs for equipment repair and maintenance due to the generation of incipient cracks in these components. This condition is not unique to Midwest Generation, but recognized throughout the industry as a widespread consequence of excessive steam unit cycling. In addition to thermal cycles, mechanical cycles on such equipment as circuit breakers, valves, actuators and other high use equipment will result in accelerated wear, unreliability and excessive maintenance costs.

The low pressure steam turbines at Joliet's Units 7&8 are designed to require especially high vacuum to allow them to re-start after shutdown. River temperatures much above 85° F do not provide the cooling required to achieve optimal vacuum conditions. Unit start-up under these conditions places excessive stress on turbine blades and risks serious

damage to these turbines. Higher river temperatures may prevent restart altogether, making units unavailable for system grid load demand and support.

Voltage control and regulation – Midwest Generation states that removing units from service will result in localized voltage and VAR control issues. Although this is the province of the Transmission Operator, these effects usually manifest themselves most severely on hot, high load demand days: days that most likely one would shut a unit down to maintain river thermal compliance. Impacts of low voltage would include shortened motor life and the possibility that some motor operated devices, such as air conditioners, will be unable to operate. More severe impacts could include localized power brown outs or blackouts due to insufficient voltage support on the transmission system.

Load regulation would also be impacted by the loss of a generating unit that typically would supply load regulation as the system loaded up. This would put additional burden on transmission lines and transmission equipment, and could cause transmission line overloading in peak conditions.

Alternatives to Requested Relief

Midwest Generation states that given the considerations detailed above, the only alternative method of compliance is to shutdown Joliet Stations 9 and 29 (Units 6, 7 and 8) and the Will County Units 3 and 4, as these are the only Midwest Generation stations which have a potential impact on I-55 Bridge water temperatures. (Midwest Generation notes that previous proceedings and thermal modeling has determined that any potential thermal impacts from the Fisk or Crawford Stations have dissipated prior to reaching Will County).

Environmental Impacts

Midwest Generation has provided details on the environmental impact during the requested variance period from July 4, 2012, through July 13, 2012. Midwest Generation has determined that there should not be any significant environmental impact during the course of this provisional variance.

Agency Determinations

The Agency has reviewed the requested provisional variance and has concluded the following:

1. Any environmental impact from the requested relief shall be closely monitored, and the Agency shall be immediately notified of any adverse impacts.
2. No reasonable alternatives appear available;
3. No public water supplies should be affected;

4. No federal regulations will preclude the granting of this request; and
5. Midwest Generation will face an arbitrary and unreasonable hardship if the request is not granted.

Conditions

The Agency hereby GRANTS Midwest Generation's Will County and Joliet Stations 9 and 29 a provisional variance from the thermal limits indicated in Special Conditions 6 and 7 of the Will County NPDES Permit No. IL0002208, Special Conditions 5 and 6 of the Joliet Unit 6 (Station 9) NPDES Permit No. IL0002216, and Special Conditions 5 and 6 of Joliet Units 7 & 8 (Station 29) NPDES Permit No. 0064254, subject to the following conditions:

- A. The term of this provisional variance begins (1) for excursion hours: when all permitted excursion hours have been exhausted; (2) for maximum temperature limits: when the temperature exceeds 93° F. The term of this provisional variance shall begin on July 4, 2012 and end no later than July 13, 2012. This provisional variance is granted based on the facts and circumstances described in the request dated July 3, 2012. If the facts and circumstances described in the request dated July 3, 2012 abate the term of this provisional variance will end.
- B. Midwest Generation shall provide the best operation of its available equipment to produce the best effluent possible at all times during the term of this provisional variance. At no time shall the water temperature in the main channel of the Lower Dew Plains River at the I-55 Bridge to exceed a temperature of 96° F during the term of this provisional variance.
- C. Midwest Generation must continuously monitor discharge and receiving water temperatures and visually inspect all discharge areas, including at the I-55 Bridge, at least four times per day to assess any mortalities to fish and other aquatic life. This monitoring shall occur during the period of the provisional variance and shall continue for a minimum of four days after the provisional variance expires.
- D. Midwest Generation shall document environmental conditions during the term of the provisional variance, including the activities described in item C. of this Section, and submit the documentation to the Agency and the Illinois Department of Natural Resources ("Illinois DNR") within seven (7) days after this provisional variance expires.
- E. Midwest Generation shall immediately notify the Agency and Illinois DNR of any unusual conditions, including mortalities of fish or other aquatic life, immediately take action to remedy the problem, investigate and document the cause and seriousness of the unusual conditions while providing updates to the Agency and Illinois DNR as changes occur until normal conditions return; notify the Agency and Illinois DNR when normal conditions return and submit the documentation to

the Agency and Illinois DNR within seven (7) days after normal conditions return.

- F. Midwest Generation shall develop and implement a response and recovery plan to address any adverse environmental impact due to thermal conditions that could result from the provisional variance, including loss and damage to aquatic life.
- G. Midwest Generation shall notify Roger Callaway, Illinois Environmental Protection Agency, by telephone at 217-782-9720 when the period of this provisional variance begins and ends. Written confirmation shall be sent within five days after the discharge specified in this provisional variance ends to the following address:

Illinois Environmental Protection Agency
 Bureau of Water - Water Pollution Control
 Attention: Roger Callaway
 1021 North Grand Avenue East, CAS #19
 Springfield IL 62794-9276

- H. Midwest Generation shall sign a certificate of acceptance of this provisional variance and forward that certificate to Roger Callaway at the address indicated above within one day of the date of this order.

The certification should take the following form:

I (We) _____, hereby accept and agree to be bound by all terms and conditions of the provisional variance granted by the Agency in _____ dated _____.

Petitioner

Authorized Agent

Title

Date

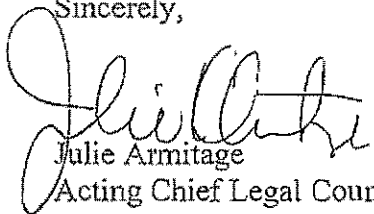
- I. Midwest Generation shall continue to monitor all parameters and comply with all other conditions specified in Joliet Station 9 NPDES Permit IL0002216; Joliet

Station 29 NPDES Permit No. IL0064254; and Will County Station NPDES
Permit No. IL0002208.

Conclusion

The Agency grants this provisional variance in accordance with its authority contained in Sections 35(b), 36 (c), and 37(b) of the Illinois Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2010). The decision to grant this provisional variance is not intended to address compliance with any other applicable laws or regulations.

Sincerely,


Julie Armitage
Acting Chief Legal Counsel

cc: Marcia Willhite
Roger Callaway
Chad Kruse

B



MIDWEST
GENERATION EME, LLC

An EDISON INTERNATIONAL® Company

July 10, 2012

Mr. Roger Callaway
Wastewater Compliance Unit Manager
Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section # 19
1021 North Grand Avenue East
Springfield, IL 62702

SUBJECT: Request for Extension of the Thermal Provisional Variance (IEPA 12-20)
for Midwest Generation's Will County and Joliet Stations 9 and 29

Will County	NPDES Permit No. IL0002208
Joliet Station 9	NPDES Permit No. IL 0002216
Joliet Station 29	NPDES Permit No. IL 0064254

Dear Mr. Callaway:

Pursuant to Section 35(b) of the Illinois Environmental Protection Act, Midwest Generation (MWG) respectfully submits this application for an extension of the Provisional Variance dated July 3, 2012 granting relief for the Will County Station, Joliet Station 9 and Joliet Station 29 from the AS 96-10 adjusted thermal standards applicable at the I-55 Bridge in the Lower Des Plaines River that are incorporated into the NPDES permits for the MWG stations listed above. This request for an extension of the July 3, 2012 Provisional Variance is due to the continuation of the extremely hot, dry weather conditions and the resulting increased power demand for use in air conditioning and other human health and safety support functions since the Provisional Variance was granted. The facts and circumstances described in the MWG provisional variance request dated July 3, 2012 are substantially unchanged and are hereby incorporated by reference. A copy of the July 3, 2012 request is attached for the Agency's ease of review and reference.

Requested Relief:

MWG requests an additional 10 days of provisional variance relief through July 23, 2012, to begin immediately upon the expiration of the term of the July 3, 2012 Provisional Variance, which continues through July 12, 2012. In the unlikely event that consistently more favorable weather and river conditions occur during the July 14-23, 2012 extended variance relief period, which allow MWG to comply with the existing I-55 adjusted thermal limits set forth in the Stations' NPDES permits, it will notify the Agency that they number of additional days of provisional variance relief will be decreased below the estimated 10 day extended period.

235 Remington Blvd.
Suite A
Bolingbrook, IL 60440

The requested terms of the extended Provisional Variance are as follows:

1. **Maximum Temperature Limits:** MWG requests a continuation of the Provisional Variance for maximum temperature limits which authorizes an increase in the maximum thermal adjusted standard from 93° F to 96° F. (See Provisional Variance, IEPA Docket No. 12-20, dated July 3, 2012, at p. 6, "Conditions" paragraph A)
2. **Remaining Excursion Hours:** The July 3, 2012 Provisional Variance provides in relevant part that "[t]he term of this provisional variance begins (1) for excursion hours: when all permitted excursion hours have been exhausted". (See Provisional Variance, IEPA Docket No. 12-20, dated July 3, 2012, at p. 6, "Conditions," paragraph A) As of this writing, the annual, permitted excursion hours have not been exhausted. However, existing permitted excursion hours are currently very low, estimated to be less than 36 hours as of the time of this extension request. MWG reasonably expects that if the extremely hot, dry weather and low flow conditions in the receiving waters continue as predicted, MWG will exhaust its permitted excursion hours before the July 13, 2012 expiration of the Provisional Variance. Accordingly, because of the significant risk that permitted excursion hours will be exhausted very soon, MWG requests a continuation of the suspension of excursion hours during the extended Provisional Variance period.
3. **Additional Excursion Hours:** MWG requests that the Agency grant additional excursion hours to be available for use by MWG upon the termination of the requested extension of the July 3, 2012 Provisional Variance. Prior to the commencement of the extremely hot weather conditions, MWG still had 123.25 hours of permitted excursion hours for use during calendar year 2012. MWG requests that these permitted excursion hours be reinstated upon their exhaustion. As stated above, MWG's remaining permitted excursion hours are very low and are likely to be exhausted during the term of the Provisional Variance or its extension if granted.

Due to the unpredictability of the weather and flow conditions in the subject receiving waters, where flow conditions are controlled by the U.S. Army Corps of Engineers, it is not possible for MWG to predict when additional excursion hours at the downstream I-55 Bridge compliance monitoring location may be needed through the remaining summer months. Maintaining consistent compliance with the permitted 91° F maximum temperature limit without excursion hours is made more difficult here due to the need to model projected temperatures at the I-55 Bridge, which is seven miles downstream of the Joliet Stations' discharges. Because these conditions are beyond MWG's control, it is not possible to manage station operations, even at significantly derated levels, in a way which assures continued compliance with the permitted 91° F maximum temperature limit, without the ability to use additional excursion hours for temperatures up to 93° F. The varying and uncontrollable weather and flow conditions simply do not allow MWG to predict the number of additional excursion hours that will be needed, and when they

will be needed, sufficiently in advance to submit to the Agency another request for the extension of the provisional variance relief regarding excursion hours.

The reinstatement of the 123.25 hours will allow MWG the ability to plan and regulate its stations' operations in a way which both ensures the provision of needed electricity without causing significant adverse effects on the receiving waters. In sum, MWG needs to have excursion hours available for use as needed due to these uncontrollable factors. MWG will continue to abide by the conditions set forth in the existing Provisional Variance (IEPA 12-20) through the duration of the requested extension period.

Additional Information In Support of Extended Provisional Variance Relief:

The current summer weather pattern is continuing to greatly impacting the ability to maintain compliance with the existing thermal limitations which cover the MWG generating stations identified above. With several days of air temperatures at or over 100° F last week, and the weather forecast calling for more temperatures in the high 90's-100's later this week and into the next, the ability to continue to provide needed power under these increasingly adverse circumstances is becoming further jeopardized. (See attached weather information). For the current variance period, MWG units at the Will County and Joliet Stations were reduced in load, and in the case of Joliet Unit 6, cycled off completely in order to continue to remain in compliance with the 96° F maximum Provisional Variance limit.

Because of the unusually hot, dry weather, the river intake temperatures are continuing to climb and the capacity of the waterway to dissipate heat continues to be greatly reduced. Higher dew points are also compromising the effectiveness of the helper cooling towers at Joliet Station 29. In addition, the hot weather is creating unusually high demand for electricity to support human health and safety needs, as well as the many businesses and households which rely on power through the PJM Interconnection.

During the July 3, 2012 Provisional Variance, Joliet 6 Station was shut down for several days in order to continue to meet the 96° F maximum temperature permitted by the Provisional Variance. With the predicted continuing days with hot air temperatures of up to 100°F, and little overnight relief, coupled with prolonged drought conditions in Northern Illinois, the alternate I-55 thermal water quality standards currently in effect cannot consistently be met, even with the current measures already taken by MWG to maintain compliance, including the derating of Joliet Unit 6 down to minimum load during periods of low river flows and increased intake temperatures. As of this writing, the intake temperature at Will County Station has been over 86 ° F for many days, while intake temperatures at Joliet Station 6 have gone well over 90 ° F for hours at a time. While the original weather forecast for the week of July 9 was showing a cooler trend, the actual measured air temperatures are already over 5° F higher than predicted. As of July 9, measured air temperatures have already reached 90° F, with higher temperatures expected to follow.

There has been no appreciable rainfall in the entire Northern Illinois area for several weeks, leading to extremely low river flows. With air temperatures predicted to stay in a dangerously high range through the week of July 15th and possibly longer, the demand for electricity to support human health and safety needs will increase, along with the physical constraints and limitations on power production and distribution brought about by these same extremely hot, dry conditions.

Assessment of Environmental Impacts:

Under the existing July 3, 2012 Provisional Variance, since the 93°F temperature at the I-55 Bridge was exceeded, the required four times/day observations of the station discharges and I-55 location have shown no adverse impacts on aquatic life in the Lower Des Plaines River. Based on consultation with its aquatic biology expert at EA Engineering, Mr. Greg Seegert, the requested extended provisional variance relief is not reasonably expected to cause mortality or any long-term negative impacts to the aquatic community.

The MWG generating stations subject to this Provisional Variance request will remain in compliance with the near-field Secondary Contact thermal standards, and hence, will not be negatively impacting the aquatic life in the waterways immediately adjacent to their discharges. As previously stated in MWG's July 3, 2012 provisional variance request, prior thermal studies conducted on the station discharges have shown that the thermal plumes from these stations allow a zone of passage and do not extend from the surface to the bottom of the river, thereby providing additional refugia for the indigenous aquatic community.

Should any adverse thermal impacts associated with the water temperature limit requested by this extension of the Provisional Variance be observed, MWG will immediately take whatever minimization/mitigation actions are required to address these impacts.

Post-Provisional Variance Compliance:

On June 8, 2012, as ambient water temperatures began to increase, and well before the issuance of the July 3, 2012 Provisional Variance, the helper cooling towers were put into service at Joliet Units 7 and 8 as a preventive measure. They have been run consistently since that time. However, the helper cooling towers continue to be plagued with fouling problems due to the proliferation of aquatic vegetation in the waterway. The proliferation of aquatic vegetation, which normally occurs much later in the summer period, is another indication that this year's warmer weather pattern is very much accelerated.

As already stated above, during the July 3, 2012 Provisional Variance, Joliet 6 Station was shut down for several days and the Joliet 29 Station has operated at a significantly reduced level in order to continue to meet the 96° F maximum temperature permitted by the Provisional Variance.

MWG has complied, and will continue to comply, with the conditions of the July 3, 2012 Provisional Variance set forth in pages 6-7 thereof.

Prior 2012 Provisional Variance Requests:

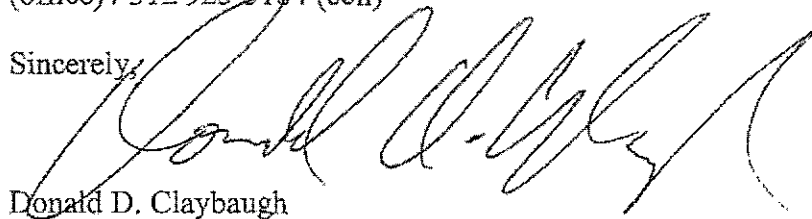
The MWG stations which are the subject of this request have not been granted any provisional variances within the calendar year other than the existing July 3, 2012 Provisional Variance which is effective through July 12, 2012.

Other Board Orders and Pending Matters:

There has been no change in the previously reported Board Orders and pending matters as stated in the July 3, 2012 provisional variance request.

Midwest Generation appreciates the Illinois EPA's continued efforts to review and response to this request for an extension of the July 3, 2012 Provisional Variance. If you have any questions or require any additional information, please contact Julia Wozniak, of my staff, at 630 771-7880 (office) / 312 925-3184 (cell)

Sincerely,



Donald D. Claybaugh
Managing Director, Coal Generation
Midwest Generation EME, LLC

WEATHER RECORDS BROKEN LAST WEEK AND FORECAST FOR NEXT TWO WEEKS:

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RECORD EVENT REPORT
NATIONAL WEATHER SERVICE CHICAGO IL
0444 PM CDT WED JUL 04 2012

...RECORD HIGH TEMPERATURE SET AT CHICAGO-OHARE IL...

A RECORD HIGH TEMPERATURE OF 102 DEGREES WAS SET AT CHICAGO-OHARE
IL TODAY. THIS TIES THE OLD RECORD OF 102 SET IN 1911.

.....
RECORD EVENT REPORT
NATIONAL WEATHER SERVICE CHICAGO IL
219 PM CDT THU JUL 5 2012

...RECORD HIGH TEMPERATURE SET AT CHICAGO-OHARE IL...

A RECORD HIGH TEMPERATURE OF 103 DEGREES SET AT CHICAGO-OHARE
IL TODAY. THIS BREAKS THE OLD RECORD OF 102 SET ON JULY 5TH 1911.

.....
RECORD EVENT REPORT
NATIONAL WEATHER SERVICE CHICAGO IL
451 PM CDT FRI JUL 06 2012

...RECORD HIGH TEMPERATURE SET AT CHICAGO-OHARE IL...

A RECORD HIGH TEMPERATURE OF 103 DEGREES WAS SET AT CHICAGO-OHARE
IL TODAY. THIS BREAKS THE OLD RECORD OF 99 SET IN 1988.
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RECORD EVENT REPORT
NATIONAL WEATHER SERVICE CHICAGO IL
140 AM CDT SAT JUL 07 2012

...RECORD HIGH TEMPERATURE AND RECORD HIGHEST MINIMUM TEMPERATURE
SET AT CHICAGO-OHARE IL YESTERDAY...

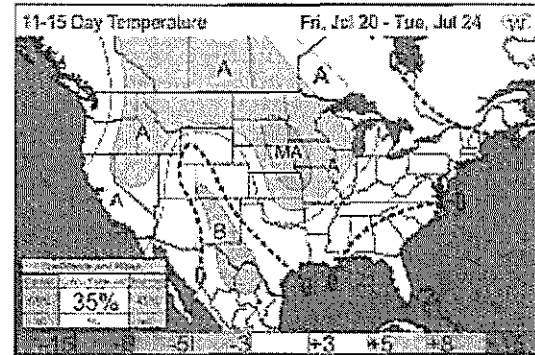
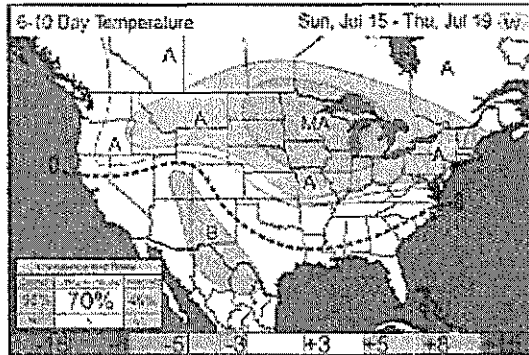
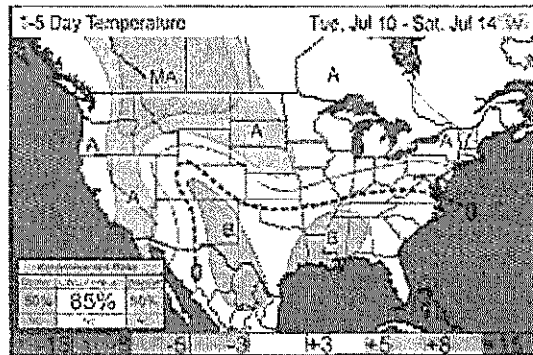
A RECORD HIGH TEMPERATURE OF 103 DEGREES WAS SET AT CHICAGO-OHARE
IL ON FRIDAY. THIS BREAKS THE OLD RECORD OF 99 SET IN 1988.

A RECORD HIGHEST MINIMUM TEMPERATURE OF 82 DEGREES WAS ALSO SET AT
CHICAGO-OHARE IL ON FRIDAY. THIS BREAKS THE OLD RECORD OF 80 SET IN
1977.

.....

FORWARD OUTLOOK WEATHER DATA:

90s return across the Midwest late this week and may persist through most of the extended period, peaking possibly in the upper 90s - 100 during the middle of next week. The east coast will lag the Midwest by a few days and peak heat will likely be a little weaker there. High confidence on stronger warmth returning during the current 16-20 day period. The Aug forecast will come in better focus mid-month.



**Additional Information Requested to Support Midwest Generation's (MWG) Provisional
Variance (PV) Extension for Will County, Joliet 9 and Joliet 29 Stations**

(Original request dated: 7/10/2012)

Current Number of Excursion Hours Left:

- Prior to the beginning of the current PV period, there were 123.25 available excursion hours for I-55 Bridge temperatures to be over 91 deg F (not to exceed 93 deg F)
- During the PV period, a total of 86.75 excursion hours over 91 deg F were consumed
- There are currently only **36.5 excursion hours** remaining for use through the end of the year at I-55. At present, based on thermal modeling of current and expected river and weather conditions, there is a possibility that I-55 temperatures will exceed 91 deg F within the next two days, based on continued low river flows and increasing air temperatures. The potential for I-55 temperatures over 91 deg F will increase next week, when air temperatures and power demand are both expected to increase.

[As stated in our July 10, 2012 request, this small number of remaining hours puts our station operations in greater jeopardy of having to reduce load during critical demand periods, since there would be no allowance to go over 91 deg F at the I-55 Bridge once these 36.5 hours are exhausted. With the prolonged drought and forecast for more 100 deg F air temperatures for next week, not have sufficient excursion hours available will severely limit the ability of the stations to operate at levels high enough to meet the increasing electrical demands that come with this extreme weather].

I-55 Temperatures:

The I-55 water temperatures were over 93 deg F from late evening on July 5th and continuing through mid-afternoon on July 8th. I-55 temperature peaked at 95.8 deg F for a very brief period of time on July 6th. I-55 temperatures were back down below 93 deg F by early morning on July 8th.

Current I-55 temperature (7/12/2012 at 1:00pm): 89.5 deg F and increasing, with the potential to go over 91 deg F later today (excursion hour trigger point).

Electronic Filing - Received, Clerk's Office, 07/12/2012
***** IEPA 2013-006 *****

Deratings /Unit Shut Downs During PV Period:

Even with the relief afforded by the current PV, the Joliet Units were derated at some level during the course of the variance period in order to ensure that the maximum 96 deg F PV limit was not exceeded.

- Joliet Unit 6 was derated from 30% to 40% of its maximum load capability from July 3rd through mid-day on July 7th, at which time the decision was made to shut down the unit to further limit the increase in downstream temperatures at I-55. Unit 6 was down from late afternoon on July 7th until late in the day on July 9th, when the extreme 100 deg F air temperatures had somewhat moderated. At this time, Unit 6 is still being reduced in load in response to increased intake temperature conditions on a daily basis, in order to continue to maintain compliance with all applicable thermal limits.
- During this same time period, the Will County and Joliet 29 (Units 7&8) were held at minimum loads overnight to help with downstream river temperature moderation, and were only brought up in load in response to PJM power demand needs. The duration of high load periods was limited as much as possible in an effort to further control discharge temperatures. No unit was held at a high load for more than several hours per day. From July 6th through mid-day on July 8th, Joliet Units 7&8 were derated down to minimum load in order to minimize further downstream temperature increases under critical weather and flow conditions. The Joliet 29 cooling towers were in constant operation during the entire PV period and will remain on indefinitely, although there are continuing equipment and fouling problems that are being managed by station personnel on a 24/7 basis to keep the towers running.

Consequences of Shut-downs/Derates:

Because of the on-going need to remain in compliance with the PV limitations, MWG was unable to supply the full amount of power committed to the PJM system. This resulted in the need for PJM to obtain power from other sources, all of which had been similarly taxed by the widespread heat-wave and drought conditions. While no system emergency was declared, the amount of available power was limited by environmental compliance constraints. In addition, as discussed in our original Provisional Variance request dated July 3, 2012, there are significant safety and operational risks in shutting a unit down and bringing it back up again.

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***** IEPA 2013-006 *****

On-Going Documentation of Any Potential Adverse Impacts:

In addition to continuing to perform 4x/day visual observations of the Will County, Joliet 9 and 29 discharges, as well as the I-55 location for potential thermal-related impacts, MWG also has its biological consultants performing routine fisheries monitoring program in throughout the waterway (in the Chicago Sanitary and Ship Canal near Will County Station, and in the Lower Des Plaines River from Brandon Lock and Dam down past the I-55 Bridge). This is a long-term monitoring program, performed by aquatic life scientists, so if there are any adverse impacts noted, for fish or other aquatic organisms or plants, this will be documented and immediately reported.

MWG also has a long-term temperature and dissolved oxygen monitoring program in place at the I-55 Bridge, with continuous monitoring equipment from May through September of each year. This data is downloaded on a weekly basis, so there will be current data available for review to determine if dissolved oxygen levels remain adequate for aquatic life.

Further, there are many state and federal agencies with sampling crews on these waterways, including IDNR and USFWS personnel, performing Asian Carp monitoring activities, so there are additional trained observers in the field that will report any unusual findings that could be associated with heat impacts.

On-Going Factors Which Impact Ability to Meet Existing Limits:

The prolonged drought conditions are expected to continue, leading to extremely low river flows. With higher ambient air temperatures also predicted for the coming week (as well as again later in July), ambient waterway temperatures are already elevated, even in natural streams without any industrial components. Without the relief provided by extending the current PV provisions related to I-55 temperature limitations, MWG's Will County and Joliet Stations will not be able to meet the power demands of the region, which is increasing been impacted by drought and heat-induced problems.

Electronic Filing - Received, Clerk's Office, 07/12/2012
***** IEPA 2013-006 *****