

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY  
BUREAU OF AIR

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Responsiveness Summary for the  
CAAPP Permit Application for  
Midwest Generation, LLC,  
Waukegan Generating Station  
Application No. 95090047

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## **INTRODUCTION**

The Illinois Environmental Protection Agency (Illinois EPA) has issued a Clean Air Act Permit Program (CAAPP) permit to Midwest Generation for its Waukegan Generating Station, located in Waukegan, Illinois. The Waukegan Generating Station is an electric power plant with three coal-fired boilers.

The Illinois EPA has prepared this Responsiveness Summary in conjunction with the issuance of the CAAPP permit for this source. This Responsiveness Summary explains the Illinois EPA's action on the application and responds to significant comments received from the public, environmental organizations, the USEPA, and Midwest Generation and others, on the draft CAAPP permit and earlier versions of the proposed permit for which were comments were submitted. For this purpose, this document also includes a copy of the transmittal letter that accompanied the resubmittal of a proposed CAAPP permit to USEPA. As specifically related to the Waukegan Generating Station, this document takes the place of the earlier response documents prepared by the Illinois EPA to explain its responses to comments, including the previous Responsiveness Summary dated December 23 2005.

## **BACKGROUND**

### Clean Air Act Permit Program (CAAPP)

The Clean Air Act Permit Program (CAAPP) is Illinois' federally approved operating permit program for major stationary sources of emissions and other sources, as required by Title V of the Clean Air Act. Permits issued under the CAAPP are known as "CAAPP permits." Major stationary and other sources covered by Title V of the Clean Air Act are required to apply for and obtain a CAAPP permit. CAAPP permits must include emissions limitations and standards and other requirements under state and federal environmental laws and regulations and related provisions to assure compliance with applicable requirements. CAAPP permits generally do not impose new substantive requirements for control of emissions. Rather, these permits provide for, among other things, testing, monitoring, recordkeeping, and reporting (a portion of which may be "new" requirements) to assure compliance with existing state and federal emission control requirements. The conditions of CAAPP permits are enforceable by the public, as well as by the state and federal government.

### Public Participation

Up until September 2005, the Illinois EPA engaged in public participation for the CAAPP application for the Midwest Generation, LLC, Waukegan power plant in conjunction with the 21 other coal-fired power plants currently operating in Illinois. By way of background, in June 2003, in accordance with the CAAPP, the Illinois EPA opened public comment periods on the draft CAAPP permits for the 22 coal-fired power

plants located in Illinois, including the Waukegan Generating Station operated by Midwest Generation, LLC, CAAPP permit application 95090047.

Due to the significant nature of this and other coal-fired power plants and based on expressed public interest, the Illinois EPA held six public hearings throughout the state, including a hearing in Waukegan. The overall duration of the comment periods was approximately 90 days for each CAAPP permit application. After the close of the comment periods and review of public comments received during the comment periods, in October 2003, the Illinois EPA prepared and sent proposed CAAPP permits to USEPA for review including a proposed CAAPP permit for the Waukegan Generating Station.

Based on further consideration and consultation with USEPA, as well as with the applicants and interested parties, in December 2004 the Illinois EPA distributed drafts of revised proposed CAAPP permits and solicited comments on the various changes to the CAAPP permits that were being contemplated. The Illinois EPA specifically notified the applicant and persons who had participated in the initial public comment periods of these further comment periods for the drafts of revised proposed permits. This assured that the applicants and the individuals who participated in the original public comment periods had an opportunity to review the changes that the Illinois EPA planned to make to the proposed CAAPP permits and to submit further comments on these changes.

This process was repeated a second time in July 2005, providing a further opportunity for comment by the applicants and interested parties. Prior to starting the comment period in July 2005, the Illinois EPA reviewed all comments received on the CAAPP Permits, including comments received during the original public comment periods in 2003. The Illinois EPA also prepared a Draft Response to Comments to accompany the new versions of the proposed CAAPP permits being released for general review. In this document, the Illinois EPA formally responded to significant comments made by the public and the applicants during their review of the CAAPP permits.

After the close of this comment period, in August 2005, in accordance with the CAAPP, the Illinois EPA prepared and sent to USEPA for its review new proposed CAAPP permits for the 22 coal-fired power plants in Illinois, including the Waukegan Generating Station. The submission of new proposed CAAPP permits to USEPA occurred after review of the further comments that were received from this comment period. It was also preceded by preparation of a new version of the Draft Response to Comments.

On September 28, 2005, within the 45-day review period provided for review of a proposed CAAPP permit by USEPA, the USEPA objected to the proposed permit for the Waukegan Generating Station. The USEPA did not object to the proposed CAAPP permits for Illinois' 21 other coal-fired power plants and the CAAPP permits for those other plants were subsequently issued. However, the Illinois EPA could not proceed with issuance of the proposed permit for the Waukegan Generating Station and instead was required to undertake further work to address the USEPA's objections.

In response to USEPA's objections to the proposed CAAPP permit for the Waukegan Generating Station, the Illinois EPA elected to make a change to this CAAPP permit. In particular, the revised CAAPP permit would require testing of particulate matter emissions from the coal-fired boilers to be conducted as soon as possible, rather than within one year, after the CAAPP permit was issued and testing requirements became effective. As required by applicable law and regulation, the Illinois EPA then provided an additional opportunity for Midwest Generation, members of the public, and other parties to submit comments on a draft of a proposed CAAPP permit with this change. In preparation for this comment period, the Illinois EPA also prepared a new version of the Responsiveness Summary, dated December 1, 2005, which was specific to the Illinois EPA's planned action on the CAAPP application for the Waukegan Generating Station.

This most recent comment period, which was limited to the planned action for the CAAPP permit for the Waukegan Generating Station, closed on December 16, 2005. Further comments were received from Midwest Generation and one public organization, the Lake County Conservation Alliance. The Illinois EPA reviewed these further comments prior to resubmitting a proposed CAAPP permit for the Waukegan Generating Station to USEPA on December 23, 2005. In addition to a change to the required timing for particulate matter emissions testing, as previously discussed, a few minor changes to the wording of the CAAPP permit were made for purposes of clarification. A new version of the Responsiveness Summary, dated December 23, 2005, was also prepared to address these further comments, as well as the Illinois EPA's response to objections to the previous proposed permit issued by USEPA in September 2005. This December Responsiveness Summary included, as an attachment, the transmittal letter that accompanied the resubmittal of a proposed CAAPP permit for the Waukegan Station to USEPA for its review.

The period for USEPA review of the new version of a proposed CAAPP Permit for the Waukegan Generating Station closed on February 6, 2005, without action by USEPA objecting to the issuance of the proposed permit. Accordingly, the Illinois EPA proceeded to take final action on February 7, 2006, issuing the proposed permit that had been submitted to USEPA for this source as the CAAPP permit for the source.

#### USEPA Review of CAAPP Permits By Petition

Under the CAAPP, as discussed above, the Illinois EPA is required to submit proposed CAAPP permits to USEPA for its review and the USEPA may object to a proposed permit, in which case the Illinois EPA must take action responding to USEPA's objections. However, the CAAPP also provides that when USEPA does not object to a proposed CAAPP permit on its own initiative, people may petition USEPA to make an objection to a proposed CAAPP permit.

In October 2003, as previously mentioned, the Illinois EPA sent proposed CAAPP permits to USEPA for the 22 coal-fired power plants in Illinois, including the Waukegan Generating Station. USEPA did not object to these CAAPP permits. However, in January, 2004, the USEPA received petitions requesting that the USEPA take action

objecting to the proposed CAAPP permits for certain coal-fired power plants, including the Waukegan Generating Station. The petitions asserted that the proposed CAAPP permits, in places, failed to comply with state and federal requirements, lacked a compliance schedule, inappropriately allowed excess emissions during malfunction, breakdown and startup, contained terms that are not practically enforceable, failed to address health impacts of the plant, and contained typographical errors, mistakes, and omissions and other inadvertent mistakes. The USEPA did not proceed to respond to this petition until it was threatened with a lawsuit. Subsequently, pursuant to a settlement to forgo litigation, USEPA responded to the petition regarding the Waukegan station, generally denying the petition but granting the petition in part, often finding that the Illinois EPA failed to explain its rationale for certain actions in the proposed CAAPP permit. USEPA issued its decision for the Waukegan Generating Station on September 22, 2005. However, USEPA's decisions for the Waukegan Generating Station was preceded by earlier decisions for Midwest Generation's Crawford, Fisk, Joliet and Will County Generating Stations. These decisions generally addressed the same issues addressed in the USEPA's decision for the Waukegan Generating Station, as the petitions filed for these other plants raised identical concerns for the proposed permits originally prepared by the Illinois EPA in October 2003.

The CAAPP permit for the Waukegan Generating Station that the Illinois EPA has issued, in conjunction with which this Responsiveness Summary was prepared, addresses all significant public comments made on the proposed issuance of a CAAPP permit to the station. This includes those comments that carried over into petitions for Midwest Generation LLC's Crawford, Fisk, Joliet, Romeoville (Will County), and Waukegan power plants, and the USEPA's responses to these petitions. Specifically, the versions of the proposed CAAPP permits, as distributed in July and August of 2005, clarified and enhanced the requirements applicable to this plant, including the recordkeeping, reporting, and testing requirements of the permit. Typographical errors, omissions and other inadvertent mistakes in the original draft permit were also addressed in those subsequent versions of the permits.

## **GENERAL DESCRIPTION OF THE PLANT AND THE PROPOSED PERMIT**

At the Waukegan Generating Station, Midwest Generation operates coal-fired boilers and associated steam turbines to produce electricity, as described in more detail below. In addition, this plant has coal-handling operations and other operations including coal processing, fly ash handling operations, and combustion turbines.

### **A. Coal-Fired Boilers**

The Waukegan Generating Station operates three coal-fired boilers for electric generation. The size and age of the boilers vary from as small as 124 MW to 307 MW. These boilers in some cases have the physical capability to fire gas or oil as auxiliary fuel and routinely use a combination of coal, natural gas, and/or fuel oil as their principal fuel.

CO emissions from the boilers are addressed by good combustion practices. NOx emissions from the boilers are generally controlled by combustion control measures including low-NOx burners (LNB) and, over fire air systems (OFA). PM emissions are controlled by electrostatic precipitators (ESPs). These boilers comply with requirements for SO<sub>2</sub> emissions by selection of coal.

The boilers are subject to state emission standards for carbon monoxide (CO), nitrogen oxide (NOx), particulate matter (PM), and sulfur dioxide (SO<sub>2</sub>). The boilers are also subject to limitations on the opacity of emissions. The boilers are also subject to the federal Acid Rain Program, which imposes requirements on SO<sub>2</sub> and NOx emissions and requires that the boilers be equipped with continuous monitoring systems (CMS) for SO<sub>2</sub>, NOx, and opacity, with computerized data systems for collection of data.

The boilers have the potential to exceed the applicable opacity limitations and certain emission standards during malfunction and breakdown of equipment. As provided by applicable regulations during malfunction and breakdown, the boilers are authorized to continue operations as necessary to provide essential service or to prevent injury to personnel or severe damage to equipment. Upon occurrence of excess emissions, the source shall, as soon as practicable, reduce boiler load, repair the affected boiler, remove the affected boiler from service, or undertake other action so that excess emissions cease.

The boilers are operated pursuant to formal operating procedures. The permit requires that the boilers must be started up in accordance with procedures that are developed and maintained to minimize emissions. As more fully addressed later in this Responsiveness Summary, these startup procedures are applicable because emissions from the coal-fired boilers have the potential to exceed the opacity limitation and certain applicable emission standards during startup.

For PM emissions from the boilers, for which continuous monitoring is not performed, periodic emissions testing is required. Initial PM testing must be performed as soon as possible but not later than 180 days of the permit condition requiring testing becoming effective. The time interval between subsequent, periodic testing is, in part, dictated by the results of the prior test. Testing must be performed using standard Reference Methods 5 and 202, as more fully discussed later in this document. CO emissions testing is also required for the boilers and must be performed in conjunction with PM testing unless a CO test was completed during a prior relative accuracy test audit for the NOx or SO<sub>2</sub> continuous monitoring system. For purposes of confirming compliance, PM and CO emissions testing is to be conducted at maximum operating load and other operating conditions that are consistent with normal operation.

Operating records are to be maintained for the boiler's control equipment and for continuous monitoring systems.

The source must maintain records that include: the date, description, and duration of each startup. In addition, if startup does not progress in a timely manner to operation in compliance with applicable standards or if the source's startup procedures are not

followed, further records are required. The Illinois EPA reviewed the information on the duration of startups provided for the coal-fired boilers at all Illinois' coal-fired power plants to set the criteria for a timely startup. Based on this review, a startup that is accomplished within four hours for a boiler rated at less than 200 MW (Boiler 6) or six hours for boilers rated at 200MW to 400MW (Boilers 7 and 8), should be considered timely, as certain coal-fired boilers in these size ranges typically complete startup within time periods that are this short. These "additional records" for startups must include a detailed explanation of why the startup was not completed sooner or why the source's procedures were not followed; the time at which solid fuel (coal) firing was begun; the flue gas temperature at which the ESP was energized, if coal was fired before the ESP was energized; and estimates of the magnitude of emissions in excess of the applicable standards during startup.

The plant shall maintain records that include a maintenance and repair log and records for each incident when operation of a boiler continued during malfunction or breakdown. These records must include the date, duration, and description of the malfunction/breakdown; the corrective actions used to reduce the quantity of emissions and the duration of the incident; information on whether opacity exceeded the applicable standard for two or more hours; whether PM, CO, or NO<sub>x</sub> emissions may have exceeded the applicable standard; a detailed explanation of why continued operation of the affected boiler was necessary; the preventative measures that have been or will be taken to prevent similar malfunctions or breakdowns in the future including any repairs to the affected boilers and associated equipment; and an estimate of the magnitude of excess emissions during the incident.

The provisions of the permit for notification and reporting provide a hierarchy of reports. Excess PM emissions, which would be associated with malfunction/breakdown of equipment, are to be reported immediately and followed by a written report within 15 days of the event. Extended opacity exceedances, in which the total duration of exceedances is greater than 30 minutes (more than 5 exceedances) are also to be reported immediately and then followed with a written report within 15 days if they persist for more than 120 minutes (20 exceedances). The plant is also required to submit quarterly reports that address exceedances, along with data from the CMS for SO<sub>2</sub>, NO<sub>x</sub>, and opacity.

The plant is required to provide information in the quarterly reports addressing all deviations from applicable requirements of the permit, including both emission control requirements and requirements for monitoring and recordkeeping. This is a common requirement for all units at this plant, including the support operations for the boilers. Such reports would also include information on the total operating hours; the greatest load achieved by each boiler; a discussion of significant changes in the fuel supply; the number, nature, and total duration of startups; information for SO<sub>2</sub>, NO<sub>x</sub>, and PM emissions and opacity; and operational information for continuous monitoring systems. These reports must include the following information for each period when emissions were in excess of an applicable limitation: the starting date, time, and duration of the excess emissions; the measured emissions rate; and a detailed explanation of the cause of

the excess emissions with a discussion of the corrective actions taken to lessen the emissions. Similar information would be required in the unlikely event that CO emissions exceeded the applicable standard, as would be determined from operational data for a boiler.

For opacity and PM exceedances, the quarterly reports must also contain summary information. For each type of recurring opacity exceedance, the reports must include information generally addressing the effectiveness of corrective actions and the role of component failure or degradation. In addition, these reports must provide further information for any new type(s) of opacity exceedance, including a general narrative description, a general explanation of the cause(s), a detailed explanation of the corrective actions, the effectiveness of those actions and the likelihood of future occurrence. Other information relevant to generally explaining the number and magnitude of opacity and PM exceedances during the quarter must also be reported.

In the case of a malfunction or breakdown of a boiler, the plant must immediately notify the Illinois EPA if the applicable PM emission standard may be exceeded or if the opacity exceeds or may have exceeded the applicable limit for more than five consecutive 6-minute averaging periods. A follow-up report is to be submitted within 15 days.

#### B. Coal Handling and Coal Processing

The Waukegan Generating Station handles, transfers, and stores coal in a series of operations. Coal processing is also conducted at this facility to reduce the size of the coal to meet the fuel size requirements of the boilers. PM from coal-handling and coal processing is controlled by various measures, including the natural moisture content of the coal and application of dust suppressant and water spray, as well as with enclosures, covers, and dust collection devices. The PM emissions from coal handling and processing are subject to an opacity limit and various regulations that address fugitive PM emissions. The PM emissions from coal processing operations are also subject to PM emission standards for process emission units.

For coal handling and processing, at least monthly inspections of control measures are to be performed while the equipment is in use, by personnel that are not directly involved in the operation on a day-to-day basis. These inspections are to confirm compliance with the work practices utilized to control dust (PM emissions). Also, detailed inspections of dust collection equipment are to be performed at least every 15 months while equipment is out of service, both before and after any maintenance and repair is performed. The inspection before any maintenance or repair is performed addresses the condition of the equipment as it was operating historically. The second inspection addresses the condition of the equipment for future operation, addressing the maintenance and repair that has been performed.

For coal handling and processing, opacity testing is generally to be performed on an annual basis with initial testing required within three months of the permit condition becoming effective. For coal handling, subsequent testing shall be performed at least

annually. Additionally, for coal processing, to address the PM emission standards, PM testing shall be promptly performed upon request of the Agency. Testing on a set frequency is not required because the control measures used for coal processing, when properly operated, assure compliance with these standards and the performance of control measures can be assessed by direct observation. Provision is made for testing upon request in the event that such direct observations are unable to determine compliance.

For both coal handling and processing, records shall be maintained for, among other things, the control measures that are being used, operational data, maintenance and repair activities, and any malfunction/breakdown of equipment. Records of the required inspections shall also be kept.

Reporting of deviations from the established control measures that last more than 12 hours shall occur within 30 days. All deviations from applicable standards or limitations in the permit must be addressed in a quarterly report, submitted with the quarterly report for the coal-fired boilers.

### C. Ash Handling

The Waukegan Generating Station operates ash removal systems that handle ash collected at the coal-fired boilers in a dry state. PM is controlled by enclosures and dust collection devices. Ash handling is subject to opacity limitations and PM emission standards.

Regular inspections of control measures are required of the ash handling operations while the equipment is in use by personnel other than those directly involved on a day-to-day basis to confirm compliance with the work practices. While the provisions for fly ash operations are similar to those for coal processing, they are more stringent than those for coal processing because fly ash is a fine material. For example, detailed inspections of dust collection equipment must be performed at least every nine months before and after the equipment is out of service, as compared to every 15 months for the coal-handling operations. While this timing may be more challenging for the source, if it is able to operate the boilers with only one scheduled maintenance outage each year, it is appropriate for fly ash handling given the nature of the material and the critical role of dust collection equipment in controlling PM emissions from handling of fly ash.

Initial testing for opacity from ash handling units must occur within three months of the permit condition requiring testing becoming effective. Subsequent testing shall be performed at least annually. Ash handling emission units must also undergo PM testing at the request of the Agency.

The plant must keep records of, among other things, the specific control measures that are used, operational data, required inspections, and times when the control measures are not utilized.

For ash handling, reporting of an extended deviation from the identified control measures, i.e., a deviation lasting for more than four hours, shall occur within 30 days. All deviations from applicable requirements in the permit shall be addressed in quarterly reports accompanying the report for the coal-fired boilers.

#### D. Combustion Turbines

The Waukegan Generating Station has four combustion turbines that can be operated to supply peaking electric power and provide an emergency source of power in the event other sources of power fail or are unavailable. These turbines are fired with light distillate fuel oil. The units are subject to the opacity limitation and SO<sub>2</sub> standards.

As the source has also requested and been “authorized” for startup with excess opacity, the source must observe the operation of the turbines for individual startups to confirm proper operation, as it is feasible to do so. (Given that the turbines may be started remotely from a power dispatch center, it may be infeasible for the source to get staff in place to observe some remote startups before they are completed.) If these observations reveal improper operation of a turbine, the observer must identify any maintenance or repair activities that should be carried out before the turbine is next operated. The operation and opacity of the turbines must be formally observed by operational personnel or environmental staff at least every six months if the engine is routinely exercised, or every time the turbine is started, if the engine is not routinely exercised. These observations are required both to confirm proper operation of the turbine and document the operational status of the turbines, with records kept of the findings from the observations. These formal operational observations must also be conducted at the request of the Illinois EPA.

Opacity testing, in accordance with USEPA Method 9, shall be performed initially within 50 hours of operation from the effective date of a permit and thereafter at least every 250 hours of operation.

Records shall be kept of the hours of turbine operation, opacity observations, maintenance and repair, malfunction/ breakdowns, shipments of fuel oil, whether the SO<sub>2</sub> emission standard would be violated when burning distillate oil, the fuel oil usage, and sulfur content of oil supplied to the turbines.

Initial sampling of the fuel oil supply for the turbines for sulfur content must occur no later than 90 days after first operating a turbine pursuant to the CAAPP permit. This is to confirm that the sulfur content of the oil already stored at the plant is such to allow compliance with the applicable SO<sub>2</sub> emission standard. Thereafter, sampling would normally only be required if a noncompliant shipment of oil were received. For this purpose, sampling would have to occur within 30 days after acceptance of a shipment of fuel whose sulfur content would not meet the applicable SO<sub>2</sub> standard.

Immediate reporting is required for any events in which the opacity from a turbine exceeds the applicable limitation of 30 percent for more than two 6-minute averaging

periods. A follow-up report needs to be submitted within 15 days. The plant must also notify the Agency within 30 days of a deviation from the SO<sub>2</sub> standard or when fuels other than the normal fuels are burned. All other deviations by a turbine from a permit condition shall be reported with the quarterly report for the coal-fired boilers.

## **RESPONSES TO COMMENTS**

### Title I Conditions

Title I of the Clean Air Act, among other things, addresses the preconstruction approvals required by the rules for Prevention of Significant Deterioration (PSD) and nonattainment New Source Review (NSR). Although derived of construction permit programs, conditions on new and modified emission units established to address PSD and nonattainment NSR are ultimately embodied in operating permits. Thus, CAAPP permits may contain previously established, revised or, in limited instances, new conditions pursuant to Title I of the Clean Air Act. Such conditions are designated “Title I” conditions. Where the terms of the condition were established in underlying permits they are designated “TI.” Where they were previously established but are being revised in the CAAPP permit, they are referred to as “TIR.” Where they are being newly established in the CAAPP permit they are labeled “TIN.”

These TI conditions place additional limitations and operating requirements on the new and modified emission units at a source. These requirements are established to address applicability of PSD or NSR and typically limit operation and hourly or monthly and annual emissions from emission units. Depending on the nature of the project and the regulations that apply, more extensive requirements can apply to particular new or modified emission units. These requirements restrict the potential emissions of the units so that the construction or modification of the units does meet the criteria for a major construction project.

These TI conditions do not “include” conditions from the historic state operating permits for these plants. These permits are not federally enforceable permits. Accordingly, the conditions of these permits are not applicable requirements for purposes of the CAAPP.

Concern arose for the manner in which the Illinois EPA apprised the public of the existence of TI conditions in the permit. It is uncontroverted that the Illinois EPA clearly identifies any TI conditions within the body of a CAAPP permit. Further, the Illinois EPA provides information as to the permits in which such conditions originated. The issue is whether and how the Illinois EPA must apprise the public that a CAAPP permit contains various TI conditions. The public notices that the Illinois EPA provided for the draft CAAPP permits for the coal-fired power plants, including the Waukegan Generating Station, stated that the “CAAPP permits may contain new and revised conditions established under permit programs for new and modified emission units pursuant to Title I of the federal Clean Air Act, thereby making them combined Title V and Title I permits.” This statement generally informed the public of the nature of the draft permits that the Illinois EPA had prepared and was planning to issue. However, there is not a

statutory or regulatory requirement that a public notice for a CAAPP Permit contain detailed information about the specific actions that are being made in a CAAPP Permit, including the revision or creation of any Title I Conditions.

Moreover, the ability to create and change minor Title I Conditions during the issuance of a CAAPP permit is an inherent aspect of the CAAPP. Such actions with respect to Title I Conditions, if any are proposed, are readily identifiable in the draft CAAPP permit. Such actions do not warrant “special” public notice, particularly as such notice would suggest that any such actions in a CAAPP permit with respect to Title I Conditions are more important than other aspects of the CAAPP permit, such as identifying applicable regulatory requirements and development of compliance procedures that satisfy the requirement for meaningful periodic monitoring.

Incidentally, in the original drafts of the CAAPP permit for Illinois’ coal-fired power plants distributed in 2003, a footnote was included on the first page of each permit indicating that the permit may contain TI conditions and generally stating that such conditions were identified, if present. To make these permits clearer, the Illinois EPA subsequently revised the approach used to indicate that a CAAPP permit contained Title I conditions. This was done by eliminating the footnote and, for the CAAPP permits that actually contained TI conditions, by including a new Condition 1.5. The proposed CAAPP permit for Waukegan Generating Station lacks a Condition 1.5, as no TI conditions are present in this permit. If T1 Conditions were present in this CAAPP permit, Condition 1.5 would also be present, generally explaining what Title 1 Conditions are and how they are labeled in the permit with a T1, T1R or T1N designation.

#### Carryover of Current Operating Permit Conditions

Concern has been expressed for the failure of the Illinois EPA to include all conditions from existing state operating permits in the CAAPP permit or to justify or “explain” the absence of certain state operating permit conditions. The CAAPP permit for this coal-fired power plant was thoughtfully and thoroughly crafted to address applicable regulations and requirements. The Illinois EPA has included terms and conditions as appropriate. However, many terms and conditions from prior state operating permits were not carried over, such as those terms and conditions that were deemed obsolete, and others deemed extraneous, insufficient or inconsistent conditions. These terms were not environmentally significant and served no purpose. This approach is entirely consistent with the “streamlining” discussions set forth in the White Paper I. In fact, White Paper I specifically endorses the exclusion of NSR permit conditions that are obsolete, extraneous, environmentally insignificant or otherwise not required as part of the SIP or NSR program.

More importantly, none of the current state operating permits issued to Midwest Generation, LLC, for the Waukegan Generating Station satisfied the criteria for federal enforceability. This is apparent on their face, as the headings of these permits are “Operating Permit,” rather than “Federally Enforceable State Operating Permit.” In this regard, these operating permits did not undergo public participation or USEPA review.

Thus, the conditions of these permits do not constitute applicable requirements and are not required to be carried over into the CAAPP permit. Further, the commentors have failed to articulate concerns for specific permit conditions. Finally, the Illinois EPA is unaware of any requirements to justify on a condition-by-condition basis why those conditions are not being carried over into the CAAPP permit.

### Statement of Basis

The CAAPP requires the Illinois EPA to provide a “statement of basis” setting forth the legal and factual basis for CAAPP permit conditions. Concern has been expressed for Illinois EPA’s adherence to this requirement. The concern appears to relate to the extent and form of the information that has been provided.

The CAAPP does not prescribe the extent or form for providing a “statement of basis.” Further, the requirement as spelled out in both the Illinois CAAPP and the federal regulation calls for a “statement.” In particular, Section 39.5(9) of the Environmental Protection Act provides that when the Illinois EPA prepares a draft CAAPP permit, the Illinois EPA shall prepare “...a statement that sets forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.” The plain language of the requirement suggests a certain brevity, if not generalization, as to the basis for permit issuance. Moreover, the purpose of the statement is to guide the public and USEPA through the CAAPP permit. It should also be noted that Federal regulations not prescribe detailed requirements for a permit statement of basis.

The Illinois EPA maintains that the CAAPP permit for the Waukegan power plant, together with the initial project summary, adequately describe the coal-fired power plant and address operational flexibility, the permit shield, applicable and non-applicable provisions, monitoring and Title I requirements. Moreover, the record for this CAAPP permit, including this Responsiveness Summary, aptly supports the terms and conditions of the permit. Collectively, this information is sufficient to satisfy the statement of basis requirement. Even assuming for sake of argument that the statement of basis for this permit was procedurally flawed, it cannot be said that the permit does not comply with the requirements of the CAAPP or the Clean Air Act. Construing such minor deficiencies in the permitting process as a basis for finding the permit deficient would be specious and elevate form over substance.

### Insignificant Activities

Comments were received regarding the requirements to which “insignificant activities” are subject. The CAAPP permit addresses these units in one distinct section. This is contrasted with emission units that are not insignificant; these are addressed in unit-specific sections of the CAAPP permit. Notwithstanding, “insignificant” emission units and “non-insignificant” emission units alike are subject to unit specific type conditions as well as general and standard conditions as more specifically set forth in the CAAPP permit.

### Origin of Authority

Concern has been expressed for the manner by which the Illinois EPA has “specified” or “referenced” the origin of and authority for each permit term and condition. As a general matter, the Illinois EPA endeavored to provide the regulatory citation for requirements contained in the permit. Where none existed, or as otherwise appropriate, the Illinois EPA made reference to the applicable statutory authority. To the extent that a permit requirement bears no statutory or regulatory reference, the general statutory authority of the Illinois EPA under the CAAPP is the basis for the requirement. This authority allows the Illinois EPA to include conditions in the CAAPP permit as necessary to accomplish the purposes of the Act and is clearly articulated in Condition 9.15.

### Compliance Schedule

The Illinois EPA has received comments regarding the need to include a compliance schedule in this permit pertinent to opacity, as well as New Source Review (NSR). These comments suggest that the source is not in compliance with opacity and NSR requirements on an ongoing basis. These comments suggest that the failure to include a compliance schedule results in a permit that is deficient.

The test for the adequacy of a CAAPP permit in this regard is largely whether it contains conditions sufficient to assure compliance with all applicable requirements at the time of issuance.

The CAAPP requires the inclusion in an application for a CAAPP permit a compliance certification and, where the source is not in compliance with an applicable requirement at the time it submits the application to the Illinois EPA, a compliance schedule. The CAAPP also requires the inclusion of a compliance schedule where a CAAPP source is in violation of an applicable requirement at the time of permit issuance. However, this CAAPP source at issue certified compliance in its application for CAAPP permit. Moreover, the public comments submitted for this plant do not support the inclusion of a compliance schedule in the permit. Accordingly, a compliance schedule is not included in the CAAPP permit.

The Illinois EPA has also received comments regarding the need to conduct a searching assessment of the compliance status of this plant with the provisions pertaining to

opacity, and possibly PM, and NSR. However, the CAAPP is not intended to drive compliance investigation nor enforcement activity. To this end, this permit has been crafted to assure enforceability and specifically to assure the plant is not shielded from compliance with the opacity limitation, PM standard, and NSR and NSR requirements.

#### A. Opacity and PM

Specific concern has been expressed whether the coal-fired boilers at the plant are fully compliant with the opacity limitations or PM standards and, if they are noncompliant, whether this triggers the requirement for inclusion of compliance schedule(s) in the CAAPP permit. As recognized in this permit, the coal-fired boilers are subject to opacity and PM standards. As also recognized in the permit, the opacity and PM standards are separate but related requirements. Accordingly, compliance with these requirements must be separately addressed. This said, opacity is a means by which compliance with the PM standard may be evaluated and enforced. More specifically, opacity is a practical means for determining whether the ESPs, which control PM emissions for the coal-fired boilers at this plant, are being properly maintained and effectively operated to comply with applicable PM standards. At the same time, while elevated opacity may indicate that higher rates of PM emissions, elevated opacity does not necessarily translate directly into noncompliance with the PM emissions standard. In other words, while opacity may be used to assess compliance and noncompliance with applicable PM standards, opacity does not provide a precise gauge for distinguishing between compliant and noncompliant operations.

Historical emissions testing of the coal-fired boilers for PM indicates that emissions are within the applicable standard. This is consistent with information that indicates that the ESPs at this plant can generally ensure compliance with the PM standard even when a number of the fields in the ESP are not in service. In addition, neither the application nor comments provide technical information evidencing noncompliance with the PM standard. Accordingly, a factual basis has not been presented upon which to include a compliance schedule in this CAAPP permit related to PM emissions from the coal-fired boilers.

Contrary to concerns expressed in comments and claims by the source, the CAAPP permit requires this plant to comply with the applicable opacity standards, even during malfunction/breakdown and startup. Quarterly opacity reports submitted to the Agency by the source, though not part of the permit application indicate that the coal-fired boilers do, at times, exhibit excess opacity. Comments suggest that this is sufficient to trigger the requirements for a compliance schedule. However, as previously noted, the source certified compliance. Additionally, information in the quarterly opacity reports, as have been resubmitted to the Illinois EPA with certain public comments, is not determinative of whether these exceedances constitute violations, much less signify violations. Midwest Generation's recent opacity reports for the Waukegan Generating Station (First, Second and Third Quarters of 2005) indicate that each of the coal-fired boilers had had less than 10 opacity exceedances per quarter. Even to the extent these exceedances rise to the level of a violation, past exceedances do not necessarily constitute a sufficient basis to include a compliance schedule in this permit.

While comments claim that the numbers of opacity exceedances are significant, consideration must be given to the fact that opacity is measured and tabulated as 6-minute averages. As a result, a single opacity exceedance is of relatively short duration. Ten opacity exceedances constitute only one hour of potential non-compliance in aggregate. These comments also fail to address the magnitude of the opacity exceedances. In addition, the duration of an individual opacity exceedance, which is measured as a 6-minute average, would not directly correlate with an exceedance of the applicable PM emission standards PM, because the compliance period for the PM standards is an hour. Moreover, available information indicates the past exceedances have only intermittently occurred and then abated, with no particular pattern of cause or frequency. Certainly for the vast majority of time, the coal-fired boilers comply with the opacity limitation. That opacity exceedances may occur intermittently is contemplated by state and federal regulations and by federal guidance. Accordingly, these circumstances do not warrant the imposition of a compliance schedule on the basis of alleged opacity exceedances.

Notwithstanding the above, the Agency tailored the CAAPP permit with a particular emphasis on opacity and PM emissions so as to comprehensively assure compliance with applicable requirements for opacity and PM emissions. The permit greatly increases the specificity of records that must be kept and the reports that must be submitted with respect to opacity and PM emissions. This action has been taken because the historic quarterly reports submitted by Midwest Generation are not readily understandable by a person who is not familiar with how such reports are prepared, so that the nature of the information that is provided in the reports could be misunderstood. These historic reports also provide only very general information about the causes of opacity exceedances and the actions that are taken in response to exceedances. For example, these reports broadly categorize different malfunctions by a coal-fired boiler by whether they occur in the boiler, the ESP or the ash handling system. Corrective actions are described in standard phrases, such as “Reduced Load” or “Reset Precipitator Controls.” These historic reports do not provide sufficient information about opacity exceedances for the purposes of the CAAPP. In particular, they fail to address the likely reason why a particular malfunction occurred, or why a load change or soot blowing was conducted in such a manner that an opacity exceedance resulted. They also fail to describe the specific measures that Midwest Generation is taking in response to opacity exceedances, both to respond to particular exceedances and to generally prevent future occurrences of similar types of exceedances.

#### B. New Source Review

Concern has also been expressed for whether the plant has triggered NSR, is now non-compliant with the requirements of NSR, requires the inclusion of a compliance schedule in the CAAPP permit, and should be required to install control technology. Further concern has been expressed for the propriety of the CAAPP permit given the absence of a compliance schedule.

As a threshold matter, all sources subject to the CAAPP must obtain a permit to operate that assures compliance by the source with all applicable requirements. As a general matter NSR requirements constitute applicable requirements. However, the application and public comments do not provide information of the type that is necessary as a matter of law, to show that NSR, as a matter of fact, has been triggered by activities at this plant and is an applicable requirement for this plant, much less whether NSR control technology requirements are applicable to this plant.

Congress established NSR as part of the 1977 Clean Air Act amendments and slightly modified it in the 1990 amendments. NSR is a pre-construction permitting program that generally serves two purposes. First, it ensures that air quality is appropriately protected from the addition of new emission units and modification of existing emission units. In areas with unhealthy air, NSR assures that major projects do not interfere with progress toward cleaner air. In areas with clean air, it assures maintenance of that air quality. Second, NSR requires that any large new or modified emission source will be as clean as possible and that appropriate improvements in pollution control occur concurrent with the “construction” activity.

The potential NSR issues posed for a coal-fired power plant are complex and investigation of these issues is not amenable to resolution during permitting. The issues require in depth case-specific assessment and resolution. The USEPA has assumed the lead in investigating NSR compliance in the coal-fired power plant industry as part of a national electric utility enforcement initiative. USEPA has alleged that a number of utilities have made non-routine repairs or other changes to coal-fired boilers and failed to undergo NSR apparently relying on the belief that the activities fell within exemptions under NSR. These allegations have yielded a great deal of litigation, which largely relates to the questions of whether the USEPA’s interpretation of what constitutes routine maintenance and repair constituted a change in policy perhaps necessitating rulemaking, and whether this interpretation was reasonable. The litigation is not yielding a clear or consistent answer to this question. Meanwhile, the federal NSR investigatory efforts are ongoing. Because the investigation and litigation continue, because the source certified compliance and included no compliance schedule in its application for CAAPP permit, and because the record for this CAAPP source lacks information clearly showing noncompliance with NSR, it is premature, unnecessary, and inappropriate to attempt to make NSR applicability determinations for this plant and to include a compliance schedule in the CAAPP permit.

Secondarily, operating permits are generally not the appropriate means for addressing NSR concerns, much less operating permits issued under the CAAPP. As mentioned elsewhere in this document, CAAPP permitting is not intended to create and impose new emission control requirements. Even if CAAPP permitting were an appropriate place for investigating NSR, once determined applicable, the appropriate venue in which to address substantive requirements of NSR would be construction permitting. This is because determinations of appropriate control technology, as required by NSR, should be made as part of preconstruction approvals subject to the administrative procedures for preconstruction permitting. Accordingly, the concern about NSR expressed in comments

is not appropriately addressed through imposition of a compliance schedule in this CAAPP permit, and hence this permit does not contain such schedule.

The Illinois EPA has inserted a placeholder for the NSR issue in this CAAPP permit in response to a verbal request from USEPA.

#### Illinois EPA Access to Plant Records

Concerning access by the Illinois EPA to operational and emissions records at sources of emissions, the Illinois EPA has the authority, to collect information in order to carry out the purposes of the Environmental Protection Act. The Illinois EPA is authorized also to include provisions in CAAPP permits that exercise its ability to collect relevant information. That certain records shall be copied and submitted to the Illinois EPA on some established reporting schedule or other basis, as set forth in the CAAPP permit is unquestioned. In this regard, the Illinois EPA has appropriately identified certain records for which it is appropriate for copies of those records to be submitted to the Illinois EPA when those records are initially established or subsequently revised, as generally addressed in Condition 5.6.2(d). Further, any required records at the source that the Illinois EPA elects to inspect and collect in person are to be furnished to the Illinois EPA. This said, the Illinois EPA's on-site inspection of records and written or verbal requests for copies of records will generally occur at reasonable times and be reasonable in nature and scope. Where particular data is already directly available to the Illinois EPA, as will be the case for certain data under the federal Acid Rain program, and such data is sufficient to meet the Illinois EPA's needs, it would be unreasonable to expect that the Illinois EPA would require that Midwest Generation provide this data a second time.

#### Testing for Condensable Particulate Matter Emissions

PM emissions testing using Method 202, (in addition to Reference Method 5), is being required for the coal-fired boilers to measure condensable PM emissions. This is because condensable PM emissions are not addressed by emissions testing with the Method 5 sampling train, since condensable PM is still in a gaseous state in the sampling train and passes through the sample collection filter. Method 202 is one of the USEPA's promulgated test methods at 40 CFR Part 51, Appendix M, and is incorporated into the Pollution Control Board's PM regulations at 35 IAC Part 212. Significantly, the use of Method 202 is not limited by geographic area or regulatory applicability. The requirement for testing using both Methods 5 and 202 is authorized by Section 4(b) of the Environmental Protection Act. Further, the inclusion of the requirement in the CAAPP permit is authorized by Section 39.5(7)(a) of the Act. That is, the collection of complete emission data from significant emission units, including data for both condensable and filterable PM emissions is consistent with the purposes of the Act. The inclusion of this requirement in this CAAPP permit, which relates to full and complete quantification of emissions, does not alter the test measurements that are applicable for determining compliance with PM emissions standards and limitations, which generally do not include condensable PM emissions. In addition, since condensable PM emissions are not subject to emission standards, the permits allow use of alternative test methods for such

measurements with approval of the Illinois EPA. This is necessary and appropriate to accommodate improvements to Method 202, which USEPA is currently pursuing. This addresses concerns expressed by the source about the technical adequacy of current Method 202. However, such concerns do not support forgoing such measurements entirely.

#### Individuals Who Conduct Required Inspections

In response to comments pertaining to opacity and PM emissions from material handling and processing operations at the plant, which are potential sources of fugitive PM emissions, the permit requires that periodic inspections of coal processing, coal handling and fly ash handling operations be performed by staff that are not directly involved in the day-to-day operation of these facilities. These inspections supplement and corroborate the observations and actions of the employees who operate these facilities on a daily basis.

The persons who may perform these periodic inspections are not required to possess specific skill sets or certifications. While these individuals must determine whether there are visible emissions from said operations, the observation of whether visible emissions are present is a matter for which training and certification is not required. As set forth in Reference Method 22, determinations of the existence of visible emissions can be made and recorded by a member of the general public. Likewise, the identification of accumulations of fines in the vicinity of a process does not require technical training. It merely requires that an individual be able to identify accumulations of coal dust or other material. This is also an action that could be performed by a member of the general public. Moreover, this is a reasonable requirement for the plant, which is required to implement operating programs to minimize emissions of fugitive dust. Accumulations of fines on the ground outside of emission units can potentially contribute to emissions of fugitive dust, as such accumulations could become airborne as a result of vehicle traffic or the wind.

While the CAAPP permits could specify that the individual conducting inspections possess a certain level of experience with the type of facility being inspected or supervise the individual actually operating a facility, the Illinois EPA does not believe that such qualifications are mandated, given the simplicity of the inspections that are being required. However, an appropriate qualification for the person who performs these inspections is that they must not be directly involved in the day-to-day operation of the facility being inspected. For this purpose, a person “fresh” to the facility and removed from operational issues would arguably be best suited. However, the permit does not further restrict the person that Midwest Generation may designate to perform these periodic inspections, beyond the requirement that they be removed from the day-to-day operation of the facility. Accordingly, these inspections can be conducted by any number of individuals working at the plant, including the plant manager, office staff, shift operators, maintenance personnel, and individuals that supervise the staff that is responsible for the day-to-day operation of a facility.

CAAPP permits must include measures to assure compliance. Requiring that a person, other than one directly involved in the daily operation of particular facilities, perform periodic inspections of those facilities to confirm proper operation is fully consistent with this obligation.

#### Fugitive Operating Program

Concern was expressed that conditions of the permit, which requires this source to operate “under the provisions of an operating program ... designed to significantly reduce fugitive particulate matter emissions,” contains vague language. Also, concern was expressed for a related provision that requires this source to amend the program “from time to time” so that it is “current.” Additionally, concern was expressed for the related requirement that paved areas be cleaned on a “regular” basis. Lastly, concern was expressed for the Agency discretion relative to the review of the fugitive PM operating program.

The particular regulations that requires this operating program, as applicable to power plants, were part of Illinois’ State Implementation Plan for compliance with the National Ambient Air Quality Standards (NAAQS) for Total Suspended Particulate (TSP). The State of Illinois successfully complied with this NAAQS, which was subsequently replaced by the PM<sub>10</sub> NAAQS, and has now been supplemented by the PM<sub>2.5</sub> NAAQS. Moreover, the relevant language found in the CAAPP permit is taken directly from the applicable State regulations. These regulations constitute applicable requirements. Thus, the regulatory language was necessarily and appropriately included in the CAAPP permit in the manner that it was.

The USEPA acknowledged the propriety of this language in its response to certain petitions. Any attempt to further develop the language would risk contradiction with the underlying regulation, as the regulation provides flexibility to appropriately address the varying potential for emissions of fugitive dust at different sources, while providing the source flexibility in the methods used to control such emissions. Moreover, the expressed concerns are ill-founded as various elements of State regulations are included in the CAAPP permit and the public may independently pursue enforcement action for, among other things, the lack of a fugitive program, an inadequate fugitive program, the failure to adhere to a fugitive program, or fugitive emissions that are visible overhead beyond the source’s property line.

#### Provisions for Mercury Emissions

Concern has been expressed that the CAAPP permit for this plant does not contain conditions for limiting, monitoring, measuring and reporting mercury emissions. The permit contains all “applicable requirements” related to mercury emissions. Also, control requirements for mercury emissions can be most effectively, adopted on an industry-wide basis by law and rule, rather than source-specific action during CAAPP permitting. Further, as explained elsewhere in this document, this CAAPP permit is not a means to enact new substantive emission control requirements. Notwithstanding, the Illinois EPA is

requiring the plant to take reasonable actions to quantify their mercury emission and report their emissions on an annual basis. The Illinois EPA is authorized to obtain this information under Section 4(b) of the Environmental Protection Act. Further, the Illinois EPA, as also authorized, is including this as a reporting requirement in the CAAPP permits pursuant to Section 39.5(7)(a), (b), (e) and (f) of the Environmental Protection Act.

### Use of Alternative Fuels

Concern has been expressed for certain aspects of the operational flexibility afforded the plant, both generally and for certain emission units. The provisions at issue have not circumvented nor failed to address or include applicable state or federal requirements, including but not limited to state requirements of local siting approval. Additionally, the concern that these coal-fired boilers would trigger local siting requirements when burning fuels other than coal, such as used oil or tires is generally misplaced.

The State of Illinois has a local siting approval process under State law for certain types of facilities. This siting requirement is in addition to local zoning and land use laws. Local siting approval is, in certain instances, a prerequisite for new development of pollution control facilities, as it must precede issuance of construction and development permits for such facilities.

Under scenarios authorized by this CAAPP permit and the provisions that are at issue, this coal-fired power plant would not constitute a “new pollution control facility.” Even assuming arguendo the plant would propose a change in its operation that would constitute a “new pollution control facility,” the CAAPP permit clearly articulates that the requisite permitting for a new pollution control facility must be obtained as appropriate. Regardless, siting is not part of the Illinois SIP, and could never constitute an “applicable requirement” under the Clean Air Act. Accordingly, as the USEPA concluded in its response to the petition, local siting approval does not need to be further addressed in the CAAPP permit.

Concern was also expressed for the Illinois EPA’s failure to address Section 39(i) of the Environmental Protection Act prior to issuing a CAAPP permit for this plant. Section 39(i) states in pertinent part that before issuing any RCRA permit, the Illinois EPA shall conduct an evaluation of the source prior experience in waste management operations. 39(i) is not applicable in the context of the permitting determination for this plant. The permit at issue is a CAAPP permit not a RCRA permit. Further, this source is not asking for a permit to become a “new pollution control facility or more specifically waste-storage or disposal site, waste transfer or transporting operation, or waste incineration facility.” In fact, the Illinois EPA has placed limitations in the permit expressly precluding the source from becoming these types of operation. As such, the requirements of Section 39(i) are not applicable and have appropriately not been addressed by the Illinois EPA.

The source is simply seeking to maintain its ability to supplement coal with other fuel materials. This was possible under the previous operating permits for this plant and it is

not appropriate for the CAAPP permit to eliminate this ability. This is particularly true as the coal-fired boilers at this plant are equipped with continuous monitors and the permit includes provisions to assure compliance with applicable emission control requirements even when the coal supply is being supplemented with alternative fuels.

### Malfunction/Breakdown and Startup

#### A. Continued Operations

The Illinois EPA has received comments regarding conditions within the CAAPP permit pertaining to operation with excess emissions during malfunction/breakdown and startups. More specifically, the comments suggest that the permit provides for “automatic exemptions” and that these exemptions are contrary to federal guidance on the topic. The comments seek clarification that excess emissions during malfunction/breakdown and startup constitute violations, that the permit conditions at best provide for an affirmative defense and that this defense would run only to actions for civil penalty, not technical or injunctive relief.

The coal-fired boilers at this plant and certain “secondary” emission units at the plant have obtained malfunction/ breakdown or startup authorization. For any plant that has received such authorization, the type of authorization (i.e., malfunction/breakdown or startup) it received, the units for which authorization has been received, and the conditions under, and manner in, which such authorization may be utilized are clearly set forth in the CAAPP permit. The origin of these authorizations is 35 IAC 201.149.

35 IAC 201.149 prohibits continued operation of an emission unit during malfunction or breakdown of the unit or associated air pollution control equipment, or startup of an emission unit or associated air pollution control equipment, if such operation would cause a violation of applicable emission standards or limitations absent express permit authorization (emphasis added). The further provisions pertaining to such permit authorization are set forth in 35 IAC Part 201, Subpart I. These provisions make clear that this process in Illinois for addressing malfunction/breakdown and startup is a two-step or multi-phase. The first step, as set forth at 35 IAC 201.261, consists of seeking authorization through a permit application to prospectively make a claim of malfunction/breakdown or startup. Pursuant to the provisions for malfunction/breakdown, the application shall include an explanation of why continued operation is necessary; the anticipated nature, quantity and duration of emissions; and measures that will be taken to minimize the quantity and duration of emissions. Pursuant to the applicable regulations, for startup, the application shall include a description of the startup procedure, duration and frequencies of startups, type and quantity of emissions during startups, and efforts to minimize emissions, duration and frequency. These regulatory requirements are acknowledged by the CAAPP, pursuant to Section 39.5(5)(s) of the Environmental Protection Act. Absent a request for authorization in an application for a CAAPP permit and a grant of such authorization placed in a CAAPP permit issued by the permitting authority, a CAAPP source or other source of emissions in Illinois

cannot legally make a claim of malfunction/breakdown or startup under Illinois regulations.

The approach taken by Illinois' regulation can be distinguished from and contrasted with that of the federal New Source Performance Standards (NSPS) regulations, under 40 CFR Part 60. These federal regulations address excess emissions during malfunction (and shutdown) or startup without the initial step present in Illinois' rules. This is because all sources are able to claim exclusion from otherwise applicable standards during a malfunction or startup event. The validity of the claims is then subject to scrutiny by USEPA and the state enforcement authority, as to whether they accept the source's claim that an incident should qualify for exemption. That is, that the excess emissions could not be readily prevented and were not contrary to good air pollution control practice on the part of the source. This case by case scrutiny can also occur under the approach in Illinois regulations, as the second step provided for in Illinois' regulations as described later. The Illinois approach only applies to emission standards found in state air pollution control regulations at 35 IAC Subtitle B.

For those units for which the source sought malfunction/breakdown or startup authorization the application for the CAAPP permit from the source contained Forms 204-CAAPP and 203-CAAPP, respectively entitled Request To Continue To Operate During Malfunction And Breakdown and Request To Operate During Startup of Equipment. These forms seek the specific information required by the relevant state regulation. Accordingly, the source sought malfunction/breakdown authorization as well as startup authorization in accordance with applicable Illinois' regulation. In turn, based on its review of the application, the Illinois EPA granted authorization to the source to make a claim of malfunction/breakdown or startup. That the CAAPP permit affords such authorization, does not equate to an "automatic exemption." The grant of such initial authorization is also fully consistent with long standing practice in Illinois permitting and enforcement with coal-fired power plants. On one hand, this practice recognizes that power plants provide an essential service, as they supply electricity that is essential to the public's well-being. In addition, these plants, due to their size and complexity may experience excess emissions due to events that cannot be readily anticipated or reasonably avoided. On the other hand, the operators of these coal-fired power plants are also fully aware that they may be held to account for any excess emissions that do occur.

The second phase of Illinois' process for operation with excess emissions during malfunction/breakdown or startup, as set forth at 35 IAC 201.262, addresses the showing that must be made for a malfunction/breakdown or startup incident in order to make a viable claim of malfunction/breakdown or startup. Pursuant to the regulations, for malfunction/breakdown, this showing consists of a demonstration that operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. There are two elements to the required showing, "need" and "function" to make a viable claim. For startup, it shall consist of a demonstration that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such events. This showing can be evaluated to a limited degree based on past practice. However, this

showing is also prospective, like the showing for malfunction/breakdown, as it relates to future events, which and whose exact circumstances are not known, and which, in fact, may or may not occur. A necessary aspect of such a showing is records of relevant information for the particular event, including information on the nature and quantity of emissions during the event, as generally addressed by 35 IAC 201.261.

Notwithstanding these circumstances, the provisions in the CAAPP permit delineate the elements for a viable claim of malfunction/breakdown or startup, do not translate to an “automatic exemption.” They are better considered as laying the groundwork to avoid “misunderstandings” between the source and the Illinois EPA and others that enforce regulations, as to the actions that must occur during malfunction/breakdown and startup. This is particularly true for coal-fired power plants, which routinely operate for long periods of time without excess emissions due to malfunctions/breakdowns, readily correct most incidents in which excess emissions do occur and generally do not experience excess emissions during most startups.

Given the bi-furcated nature of the approach of Illinois’ regulations, the notion that these permits will provide for automatic exemptions is incorrect. The regulations and the CAAPP permit simply afford the source an opportunity, to which the source is entitled, to make a claim of malfunction/ breakdown or startup, with the viability of such claims subject to incident specific review by the USEPA and the state enforcement authority against the requisite showing. Notwithstanding any superficial impressions to the contrary, this is clearly embodied in the relevant rule. 35 IAC 201.265 clearly states that the granting of authorization to operate with excess emissions during a malfunction/breakdown or startup, violating an applicable state standard even if consistent with the terms and conditions of such authorization shall only constitute a prima facie defense to an enforcement action for a violation of regulations. The CAAPP permit within which malfunction/breakdown or startup authorization has been included does not provide a shield from the state emission standards that may be violated during malfunction/breakdown or startup events. Rather, as applicable, and as set forth in the CAAPP permit, the plant is subject to the appropriate limitations or standards notwithstanding any malfunction/breakdown or startup authorization included within the permit. Thus, any excess emissions during these events would constitute violations potentially subject to enforcement and appropriate injunctive relief. Nothing in the applicable rules or permit conditions suggest otherwise.

The language in the permit, in places, may have been unclear on these issues. Accordingly, the Illinois EPA has revisited and reworked the language in the CAAPP permit where appropriate. The CAAPP permit now makes clear what the source has generally “demonstrated” to this juncture, and what they generally will need to demonstrate relative to future malfunction/breakdown and startup events. The Illinois EPA has also simplified the provisions removing details that might suggest that these authorizations provide greater advance authorization for excess emissions than is possible under Illinois’ regulations. In particular, provisions with respect to the duration of malfunction/breakdown and startup events are removed because the duration of such events for which the source might appropriately make a claim cannot be definitively

determined in advance. Provisions dealing with tracking the duration of malfunction/breakdown incidents has also been simplified, as triggered by comments from the source. In particular, the source objected to language that addressed the timing of malfunction/breakdown incidents in which emission exceedances were separated by periods of compliant operation. The language in question has been removed, since it is no longer needed as the duration of the incidents addressed by the authorization is not specified. Provisions for malfunction/breakdown for coal handling, coal processing and other process units that support the operation of the coal-fired boilers are linked to incidents that relate to the operation of the coal-fired boilers. Finally, the Illinois EPA has enhanced the provisions of the permit for recordkeeping and reporting associated with such events. These provisions have also been referenced in the malfunction/breakdown and startup authorization. These actions will facilitate closer scrutiny of these events, to assure that the source takes appropriate action to minimize excess emissions during these periods and respond appropriately when excess emissions do occur.

#### B. Malfunction Definition

The lack of a definition of malfunction/breakdown in this CAAPP permit was raised as a concern in public comment. Any such definition would potentially be inconsistent with the approach to malfunction/breakdown laid out in applicable regulations. This is because it could suggest that certain malfunction/breakdown events, by definition, qualify for special consideration so as to not constitute violations. Such a definition would only be necessary if the “preliminary authorization” for malfunction/breakdown claims in the permit also acted to shield the source from potential enforcement for such events, which is not the case. As indicated by USEPA in its responses to the petition, the lack of definition is of no affect on the CAAPP permit. As also noted by the USEPA, the term is common, and its plain meaning is clear. The Illinois EPA’s practices indicate that Illinois EPA’s implementation of the term malfunction/breakdown is consistent with federal regulations and guidance. The public comments on the permit do not indicate otherwise.

#### C. Malfunction Operating Log

As previously indicated, CAAPP permits are to include all “applicable requirements.” In public comment, concern was expressed for the failure to include a requirement for a signed, contemporaneous operating log for the actions undertaken by the source during malfunction/breakdown or startup. The CAAPP permit contains the “applicable requirements” including Illinois’ air pollution control regulations. That Illinois’ regulations do or do not meet the letter of a historic USEPA guidance document is a matter that has no relevance for this CAAPP permit. Moreover, in this instance, the concern is non-substantive, and all substantive elements are satisfied.

Malfunction/breakdown and startup events are subject to recordkeeping and reporting requirements. The required reports, and any other reports that the Illinois EPA may seek from a CAAPP source, are subject to certification requirements. Thus, while the records

kept on site may not be certified, the information in those records when converted to written reports will be certified.

#### D. Requirement to Minimize Excess Emissions

In public comments and in petitions to USEPA, concern was expressed for the inclusion of the requirement to minimize emissions from startups by means including “other written instructions.” Additionally, concern was expressed for the use of the terms “timely” and “as soon as” in the requirement for “timely energization of the ESP as soon as can be safely accomplished.” Various changes were made to the CAAPP permit to improve clarity. At the same time, the language of concern was simply intended to address the manner in which the plant must comply with the applicable regulatory requirement to minimize emissions during startup. In fact, the CAAPP obligates the Illinois EPA to include applicable requirements and other conditions that serve to assure compliance with the applicable requirements. Regarding the first concern, the permit simply reiterates the sources obligation to minimize emissions. It is commonly accepted that a basic technique for carrying out this obligation is through evaluations and planning that are memorialized in writing, as standardized procedures for startups. However, the development and utilization of such procedures does not relieve the source from the responsibility to review and update those procedures, particularly as circumstances change or procedures are found to be inadequate. Regarding the second concern, the permit lists mandatory elements that the source must include in the “other written instructions” to minimize emissions. The language is simply meant to provide detail for the requirement at issue. Further, the Illinois EPA simply intends that a specific measure be undertaken at the earliest juncture that is technically feasible.

Concern was also expressed for the requirement that certain emission units other than the coal-fired boilers are to minimize emissions in accordance with “established startup procedures.” In response to this comment, the Illinois EPA has excluded this term from the CAAPP permit. It has been replaced with a requirement that the source conduct startup in accordance with procedures that are developed and maintained to minimize emissions during startup, as already discussed.

Concern was also expressed for the phrases “reasonably be repaired” and “reasonable steps to minimize emissions.” The language of concern has not been included in the revised version of the permit.

In summary, as previously addressed, there exists a regulatory obligation to minimize emissions during startup. In turn, there exists a statutory obligation to include this requirement in the CAAPP permit as a means to assure compliance. Any concern for the language by which the Illinois EPA attempted to address the means to minimize emission is misplaced, as the base requirement is clear.

#### E. Malfunction Notification

Concern was expressed for the requirement to “notify the Illinois EPA’s regional office by telephone... as soon as possible during normal work hours for each incident of continued operation during malfunctions and breakdowns.” The time frame for reporting of malfunction/breakdown with excess emissions in the applicable regulations regarding reporting excess emissions during a malfunction or breakdown is “...immediately,” except if otherwise provided in the operating permit (emphasis added). Accordingly, the use of the terminology “as soon as possible” is not prohibited. Nevertheless, the Illinois EPA has altered the language in the permit. This is consistent with the USEPA’s responses to the petitions. That is, the phrase “as soon as possible...” has been replaced with “immediately.” The term “immediately” still embodies the concept of importance to the Illinois EPA, which is to require reporting but not to the detriment of actions to respond to a malfunction/breakdown incident. The Illinois EPA has also refined other incidental aspects of notification and reporting related to malfunction/breakdown incidents, based on specific consideration of the circumstances of the various emission units addressed by this permit.

F. Directives of the Illinois EPA

Concern was expressed for the requirements to comply with all directives of the Illinois EPA characterized as “reasonable.” The inclusion of the term “reasonable” is necessary and appropriate, as the USEPA recognized in its responses to the petitions, as it is taken verbatim from Illinois’ regulations at 35 IAC 201.263.

G. Extensions of Malfunction Authorization

Concern was expressed for the use of both the terms “extraordinary” and “unusual” when characterizing the circumstances under which malfunction/breakdown authorization may be extended. As previously explained, the Illinois EPA has not included this language in the permit. This is because the presence of these terms could be interpreted or construed as providing advance or concurrent authorization for the “acceptable” duration of certain malfunction/breakdown events.

Practical Enforceability of Conditions

A permit is enforceable as a practical matter where permit conditions establish a clear obligation on the source and where associated provisions for work practices, testing, monitoring, and recordkeeping reasonably provide for verification of compliance with such requirement(s). The following concerns were raised regarding the practical enforceability of certain conditions of the CAAPP permit.

A. Conditions that Reference Undefined Procedures and Documents.

1. Concern was expressed for the requirement to perform testing under “other operating conditions that are representative of normal conditions.” More specifically, the concern was that the terms are “vague and “undefined ” and allow too much “discretion.”

Similarly, during the comment period and in petitions to the USEPA, concern was expressed for Condition 8.5, a General Permit Condition, as it requires testing be conducted using “standard test methods” but fails to define these methods. Additionally, concern was expressed for the requirement that certain emissions measurements be taken at the “appropriate” location in the stack of particular emission units. As a technical matter, such sampling locations are addressed by and would be established based on USEPA Reference Method 1 and the CAAPP permit expressly mandates use of USEPA’s Reference Methods for emission testing. The conditions under which a unit may operate are unit specific and may vary such that the precise conditions under which testing shall occur are best established in the time period shortly before a test event. Standard test methods and procedures are set forth in federal regulations and referenced in the State’s air pollution control regulations. The applicable test methods vary depending on the pollutant at issue and may vary depending on the unit, layout and operating conditions at issue. Furthermore, this source is required to submit test plans, which are reviewed by the Illinois EPA to help ensure that testing is properly conducted. More specificity regarding test conditions or test methods or procedures in the CAAPP permit is needless and inappropriate, particularly as it would impede timely emission testing conducted under appropriate operating conditions. The USEPA has appropriately denied these concerns raised by petition.

2. During public comment and in petitions to the USEPA, concern was expressed for the inclusion of language in the CAAPP permits that is “practically unenforceable” as either “vague, subjective, or undefined.” Of particular concern were the phrases or terms “from time to time,” “current,” “regular,” and “immediately.” This language at issue is, in many instances, the precise language contained in applicable Illinois regulations. Further, greater precision can be needlessly limiting in certain instances. For example, from a regulatory perspective, where the written notice of an event is desired at the earliest juncture after an incident, it is preferable to use the term “immediately” rather than some set time frame which could be greater than necessary and actually serve to delay notice of the event. Moreover, at times, greater precision may require speculation about facts or scenarios that are not known or cannot be known or that have not occurred or may not occur.

Accordingly, the Illinois EPA does not consider the terms identified in these comments to be inappropriate as a categorical matter. In light of comments, the Illinois EPA reviewed the particular context in which these terms, and other similar terms, were used, to confirm they were appropriately used. The Illinois EPA did alter the CAAPP permit when a more fitting term was identified or a term could be avoided altogether.

3. Concern was expressed for the language at Condition 7.2.9(a) and (b) “which shall be kept up to date” when describing recordkeeping. The language is sufficiently clear on its face, as the terminology is applied to plans, procedures or lists that may become outdated as circumstances at the plant change. The recordkeeping obligation is ongoing. The USEPA denied this allegation in its responses to petitions.

B. Permit Conditions That Use “Reasonable” or “Reasonably”

During public comment and in petitions to the USEPA, concern was expressed for the use of the term “reasonable” or “reasonably.” The Illinois EPA does not consider such terms categorically inappropriate. Rather, the Illinois EPA reviewed the context within which the terms were used to determine their propriety, deleting or substituting the terms where appropriate. For example, concern was expressed for the requirement that a source implement “measures that minimize visible emissions of particulate matter and provide a reasonable assurance of compliance.” Upon reconsideration, the Illinois EPA agrees that the inclusion of the term “reasonable,” as it modifies the assurance of compliance that is required for measures that must be undertaken, was unnecessary, and inappropriate in this particular context. The term “reasonable” has not been included in the permit.

#### C. Conditions That Allow Discretion by the Illinois EPA

1. Concern was expressed for the fact that the permit allowed the Illinois EPA to “waive” the requirements for testing PM emissions. However, separate from the provision at issue, the CAAPP permit requires appropriate periodic testing for PM emissions from the coal-fired boilers. The particular provision of concern dealt with the performance of “extra” tests if a coal-fired boiler operated at significantly greater load than the load during the prior PM tests. Where emissions are well within the applicable emissions limit and a boiler operates at only a slightly higher load, such extra testing may not be worthwhile, but this determination would best be made on a case-by-case basis. At the same time, boiler load during PM emission testing is important and it is best addressed explicitly, rather than in other general provisions of the permit that provide for additional PM testing to be performed upon request from the Illinois EPA.

Waiver language is no longer included in the provision for these extra PM tests. At the same time, to compensate for this action, the criteria for such testing has been adjusted, increasing the time period associated with “high load” operations (generally 2 percent higher than the load during prior testing) from 24 to 30 hours in a calendar quarter. This accounts for the “extra” tests that might arguably have been waived for the plant.

2. Concern was expressed for the condition that provides for Illinois EPA review and approval of a protocol for PM emissions testing of the coal-fired boilers. The requirement for review and approval of such protocol is consistent with the historical practices of both the state regulatory agencies and the USEPA. The purpose of the protocol, and of its receipt and review prior to testing, is to ensure that emissions testing occurs under appropriate conditions, utilizing appropriate test methods and procedures, and ensuring the necessary operational information is recorded during testing. The complexity of testing, the possibility of changing circumstances at the source, and the range of experience of testing services necessitate this exchange prior to testing. The requirement is wholly consistent with Illinois law and is not an inappropriate exercise of discretion.

#### D. Conditions That Contain “Vague” Language

1. Condition 5.2.7 of the permit addresses the episode action plan. Concern was expressed relative to the definition and content of the plan as well as its terms and time frame implementation. The episode action plan is a requirement of limited application. Nonetheless, such plans are required of the source by 35 IAC Part 244, and as such, constitute an “applicable requirement.” Accordingly, it is appropriate to include the relevant provisions of the applicable regulations in the CAAPP permit. However, simply because this source is required to prepare and operate in accordance with a specific plan or procedure does not make the contents of such plans or procedures subject to review as part of CAAPP permitting. In addition, while power plants are required to possess episode action plans, the plans would only be implemented upon the highly improbable issuance of air pollution advisories under the regulations for air pollution episodes. To “define” the plan beyond the language of the relevant State regulations would require speculation about facts or scenarios that are not known, cannot be known, have not occurred, and given Illinois’ history, are unlikely to occur.

2. In public comment, concern was expressed for the use of the term “deviation” in the context of what a CAAPP source is obligated to report. Condition 5.7.1 sets forth a general, source-wide reporting requirement. The term “deviation” is commonly used. Its meaning is clear, a CAAPP source is to report “variance” from the requirements of its permit. Neither the CAAPP nor 40 CFR Part 70 contain a specific definition of the term. Further, definition or refinement of the term would not facilitate implementation of the requirements of the CAAPP for reporting of deviations. In part, this is because a “deviation” does not, in every instance, equate to a violation. In this regard, deviation reporting is more encompassing than violation reporting. There is no evidence in the public comments for this permit that the term “deviation” is used in a fashion that is contrary to the CAAPP. Appropriately, USEPA denied this comment on Petition.

By way of further example, the source claims in their comments that the CAAPP permit unduly expanded the meaning of the term “deviation.” They pointed to certain instances, where they would be required to provide notification when emissions may have exceeded an applicable limit, as well as when the limit has been exceeded. Such requirements are imposed in circumstances where available information for an emission unit may not authoritatively show compliance, such that the exact compliance status is unknown. This could occur under atypical operating conditions, most commonly malfunction/breakdown. The ability to make an authoritative compliance determination could be prevented by the lack of a qualified opacity observer pursuant to Reference Method 9. Even if such an observer were available, formal opacity observations might not be possible given the time of day or weather conditions. Other available operating information for a unit may also not be sufficient for an authoritative finding of compliance or noncompliance. One is simply presented with an incident where compliance status of a unit is uncertain or suspect. In the provisions at issue, such incidents are appropriately treated as deviations. That is, the source is unable to confirm compliance under operating conditions under which emissions may have exceeded an applicable standard. As such, the incident should qualify as a deviation and be reported. This will allow further investigation to occur by the Illinois EPA, as needed. At the same

time, this sort of a deviation cannot be equated with a violation, at least pending further investigation.

3. Concern was expressed for a unit specific condition that describes the monitoring requirements for each coal-fired boiler and attempts to delineate the precise monitoring requirements that are applicable to the source. To guard against the potential ramifications of inconsistency between the permit language and the language of federal regulations for monitoring under the Acid Rain Program, the Illinois EPA inserted the provision that Part 75 requirements shall prevail in the event of conflicts. No information has been introduced into the record indicating how this condition is contrary to the legal requirements. In fact, the language of concern is not “vague” but rather explanatory. It is also supported by Section 39.5(17) of the Environmental Protection Act, which provides that the Illinois EPA “should not include or implement any measure which would interfere with or modify the requirements of Title IV of the Clean Air Act or regulation promulgated there under.” Appropriately, USEPA denied this concern in responses to petitions.

4. Concern existed for the form of the condition dealing with the submittal of information related to operation of NO<sub>x</sub> emissions monitoring. However, the approach in this provision mirrors the approach in the federal NSPS. In addition, the language that the commenters suggest constitutes examples, in fact constitutes reporting requirements. Specifically, reporting of detailed operational information is triggered upon request of the Illinois EPA or where the continuous monitoring system down time exceeds five percent of the total operating time for a boiler.

5. Sections 7.2, 7.3, and 7.4 of the permit address’ coal handling, coal processing and fly ash handling, respectively. Among other things, each section requires work practices or control measures, to minimize visible emissions of PM from the respective operations and to assure compliance with the applicable emission standards.

Concern has been expressed for the use of the language “such as” in describing the control measures to be utilized. More specifically, the concern is that the listed control measures are examples not requirements and that control measures may not actually be required for coal-handling units. The unit-specific conditions as a whole clearly articulate the units and the control measures, the applicable emission limitations and standards, and the inspection, recordkeeping and reporting requirements to ensure compliance with applicable emissions limitations and standards. In fact, the source possess’ control measures and are subject to the requirement to utilize such measures to minimize visible emissions. “Such as” was utilized so that it was clear that the control measures necessary to minimize visible emissions are not limited to those that are listed in the permit. Together, the conditions are clear and practically enforceable, as echoed by USEPA in its responses to petitions.

A related concern was expressed that the permit fails to require specific control measures beyond what is currently being implemented, which “could be none at all.” First, as previously stated, the permit identifies the measures that the source currently possess.’

Second, any control equipment beyond that which the source currently possesses would require a construction permit. Further, at this juncture, the Illinois EPA has no basis to require additional measures or equipment as there exists no evidence that existing measures are insufficient to meet applicable regulatory requirements. Finally, a detailed recitation of specific control measures is not required in a CAAPP permit, as a CAAPP permit delineates applicable requirements and includes provisions for periodic monitoring (work practices, testing, instrumental monitoring, and recordkeeping) that are adequate to verify compliance with applicable requirements.

6. Concerns were expressed for conditions, which dealt with the final required element in the records that the source must keep for the required periodic inspections of material handling/processing operations. Due to concerns for the intent of these conditions, as expressed by the public and the source, the Illinois EPA has included revised language in the permit. Where the language once read, in pertinent part, “summary of compliance compared to established control measures,” it now reads “a summary of the observed implementation or status of actual control measures as compared to the established control measures.” The purpose of the condition is to have the individual conducting an inspection of the particular material handling or the process operations to summarize his or her detailed findings with respect to what is actually being done for control of dust from particular operations, as compared to what should be being done for control of dust.

7. Certain conditions utilize the term “good air pollution control practice.” This term is a common regulatory term. For an example, refer to 40 CFR 60.11(d). Generally, it means those measures, practices or procedures to diagnose and prevent malfunctions and to ensure the emission unit operates as designed, and is maintained and operated in practice so as to assure compliance. Appropriately, the USEPA denied this concern on petition.

8. Concern was expressed for the adequacy of the standard permit language at Condition 9.8 pertaining to the CAAPP annual compliance certification. First, for the annual compliance certification as properly noted in the USEPA’s responses to petitions, the language is sufficiently clear that the filing deadline is May 1 of the year following the calendar year for which the report is being prepared. Second, as expressed by the USEPA, Condition 9.8 is wholly consistent with the statutory language. Moreover, it is quite clear that CAAPP annual compliance certifications are to include a source’s compliance status condition-by-condition, stating for each condition whether compliance was continuous or intermittent and indicating the method(s) used for this determination.

#### E. Conditions That Are “Improperly” Located in the Permit

Concerns were raised that certain conditions in the unit-specific portions of the CAAPP permit are not properly located in the permit given the nature of the conditions. This concern is commonly raised for certain reporting requirements that are not found in the reporting conditions of the permit. Because of this placement, the commenters were concerned that the particular conditions might be overlooked by individuals who were reading and relying upon the permit. These concerns related to the location of various

conditions and the organization of the permit and do not affect the practical enforceability of the permit.

While the Illinois EPA has generally grouped various types of conditions based on the nature of the requirements, i.e., emission standards, operating requirements, recordkeeping compliance procedures, etc., such groupings were not followed where doing so would impede clarity in the permit. For example, “specialized” requirements for notification and reporting related to testing of emissions and opacity are located in the unit-specific conditions for such testing. Similarly, as the condition addressing reliance on the provisions of 35 IAC 212.321(b) for opacity from the coal-fired boilers is addressed as part of the compliance procedures for these boilers in Condition 7.1.12(a)(ii), notification requirements for changes in the source’s procedures related to these provisions are also addressed in this condition, i.e., in Condition 7.1.12(a)(ii)(E). Instead of including specialized requirements, the unit-specific conditions of the permit addressing recordkeeping and reporting address general requirements that will apply on a continuing basis.

Similarly, specialized conditions for the coal-fired boilers dealing with applicable requirements in the unlikely event that a coal-fired boiler switches to an alternative mode of operation (i.e., routine use of natural gas or oil with coal, or operation with only gas or oil) are included in the non-applicability conditions of the CAAPP permit. This is because this part of the permit explains how these modes of operation are to be distinguished from the basic mode of operation of the boilers, i.e., firing of coal with use of gas or oil as supplemental fuels to facilitate combustion of coal, and the consequences of switching to an alternative mode of operation. To include these provisions elsewhere in the permit would not alter these requirement of the permit and is unnecessary. Moreover, placement of these conditions elsewhere in the permit would complicate and confound those parts of the permit to which the conditions were relocated.

### Periodic Monitoring

Concern was expressed that the provisions for certain emission units at this plant, other than the coal-fired boilers, fail to require emissions monitoring or emissions testing and thus, fail to satisfy requirements for periodic monitoring. CAAPP permits include emissions testing, emissions monitoring, recordkeeping and reporting requirements to assure emission units comply with applicable emission control requirements. Significantly, these requirements need not be identical for each emission unit. Rather, various combinations of the requirements will suffice depending on the nature of a unit and the emission control requirements to which it is subject. What constitutes sufficient monitoring is left to the judgment of the permitting authority. The test for the adequacy of these “periodic monitoring” provision(s) is whether they yield reliable data from the relevant time period and is representative of the source’s compliance with a particular requirement.

As a more general matter, the Illinois EPA has reviewed the provisions of the permit to ensure that they include adequate periodic monitoring. This review has resulted in the

inclusion of additional work practices, testing requirements and recordkeeping requirements in the permit for certain emission units. For example, to address the CO emission standard for boilers, the permit now requires periodic combustion evaluations as part of the routine operation of the boilers. These evaluations, which the Illinois EPA believes are already generally occurring, will serve to maintain CO emissions well below the standard. However, the permit requires that these evaluations now include diagnostic measurements of CO concentrations, if this is not already occurring, to provide data for CO that can be readily related to the applicable emission standard. The term diagnostic is used to describe these measurements because it is not intended that these measurements must be conducted using formal emission test methods, but rather using the types of instruments that are commonly used for measuring CO concentrations in the exhaust stream of a boiler or fuel combustion device to verify proper combustion. This work practice requirement is accompanied by changes to testing requirements including new requirements for emission testing upon request by the Illinois EPA for boilers for which requirements were not previously made explicit. As a further example, to address compliance with the visible emissions requirements, the Illinois EPA is requiring annual opacity testing for coal handling and processing, and ash handling. Additionally, Illinois EPA is requiring work practices, inspections and record keeping. Collectively, these requirements constitute sufficient periodic monitoring. Specifically, the work practices are to occur continually; the inspections will occur frequently. The required record keeping is frequent and extensive. These requirements, in conjunction with annual opacity testing, adequately assure compliance.

Similarly, concern was expressed for provisions that address the combustion turbines at the source, which are subject to the opacity and SO<sub>2</sub> emission standards. The specific concern was that the provisions failed to include “periodic monitoring” provisions sufficient to verify the Permittee’s compliance with these standards. Specific provisions for Reference Method 9 testing are now included to address the timing of measurements to verify compliance with the opacity limitation. In addition, the provisions for sampling of the sulfur content of the distillate oil required to demonstrate compliance with the SO<sub>2</sub> standard have been further developed. This testing coupled with appropriate recordkeeping is both adequate and sufficient periodic monitoring to address compliance with the opacity limitation and SO<sub>2</sub> emission standard for the units at issue.

The source has commented that the periodic monitoring requirements contained within the CAAPP permit exceeds that which is necessary to satisfy statutory requirements and are overly burdensome. In fact, the source has inappropriately questioned the breadth of and authority for a number of the requirements.

As a general matter and as previously mentioned, the purpose of periodic monitoring is to assure compliance. As the requirements at issue are intended to assure compliance, these requirements simply do not exceed the Illinois EPA’s authority under the CAAPP. Further, under any circumstance, the requirements of concern fall within the Illinois EPA’s general statutory authorization to further the purposes of the Act.

The Illinois EPA acknowledges the source is subject to a number of regulatory provisions requiring continuous monitoring systems (CMS), and thus possess CMS on the coal-fired boilers for a number of pollutants. The existence of these CMS was factored into the periodic monitoring analysis for the plant. The recordkeeping and reporting is driven by the existence or lack of CMS, and, of necessity, requires records and more frequent reporting where no CMS exists. For example, as there exist no CMS for PM at this plant, deviations from these standards require reporting within 15 to 30 days, depending on the nature of the unit. This is in contrast with SO<sub>2</sub>, NO<sub>x</sub>, and opacity for which CMS are in place on the coal-fired boilers and for which deviations are generally to be reported quarterly.

The nature of the periodic monitoring is also related to the degree of operational flexibility provided by the permit. For example, the permit allows the coal-fired boilers that also have the ability to burn oil or gas as a principal fuel, to switch to operation with these fuels, either in whole or in part. This is reasonable, as it allows flexibility in operation, allowing the source to respond to operational issues and fuel costs. It is also required as the source has addressed these alternative modes of operation in their application. However, it is also appropriate for the source to notify the Illinois EPA of such changes. This should preferably occur a week in advance or concurrent with the change, if it was not anticipated. This is appropriate as such changes may have other ramifications for operation of the plant for which the Illinois EPA should be aware. Certainly, switching back to coal, after such an alternative mode of operation, warrants potential review by the Illinois EPA to confirm that systems are fully operational. Likewise, switching away from coal may have implications for the level of control that must be achieved. In such circumstances, it would be wholly inappropriate for the Illinois EPA to allow such operational changes to be reported in the quarterly report, which depending on timing, could be anywhere between 30 to over 100 days after the change in operation.

Another example of divergent views on what is and is not appropriately required by the permit pertains to quarterly CMS reports under the Acid Rain Program. The source requested that the CAAPP permit not require the submittal to the Illinois EPA of those reports required to be submitted to USEPA under the Acid Rain Program. As a threshold matter, the requirement for reporting this information to the Illinois EPA is clearly consistent with and authorized by the CAAPP. Secondly, as the information is provided to USEPA in electronic form, submittal to Illinois EPA can hardly be characterized as burdensome. In addition, the comments gloss over a significant fact; the requirement for submittal of the information to the Illinois EPA is an applicable requirement which cannot be avoided and from which the source cannot be shielded.

In sum, consistent with its statutory authority and based on a reasoned analysis, the Illinois EPA has worked to craft conditions that assure compliance in a manner that is commensurate with the emission unit and regulatory requirements at issue.

### Prompt Reporting

Concern exists for whether certain reporting provisions satisfy the statutory prompt reporting requirement. More specifically, concern was expressed for a number of conditions that allow reporting of certain “deviations” with quarterly reports for the boilers.

The CAAPP requires the inclusion of requirements for the “prompt reporting” of “deviations” from permit requirements. Neither the CAAPP nor the federal rules upon which the CAAPP is based and was approved by USEPA define the term prompt. Rather, 40 CFR Part 70.6(a)(3)(iii)(B) intended that the term have flexibility in application and that the permitting authority define the term relative to the “applicable requirement” at issue, the “type of deviations likely to occur” for which reporting may be required, and the period in which the deviation may need to be reported.

To this end, “prompt reporting” may be appropriately addressed generally or specifically. The CAAPP and this permit includes general and unit-specific reporting requirements. Where the permit includes unit-specific reporting this is generally in lieu of, but may be in addition to, the general reporting requirement. The precise reporting schemes are case-specific and delineated for the different emission units and groups of units in the CAAPP permit. The conditions at issue require reporting of deviation no less frequently than quarterly, and, in certain instances, within 30 or 15 days of an incident.

The USEPA is on record in other matters and in responses to petitions as having determined that reporting on a quarterly basis can satisfy the prompt reporting requirement. This timing for deviation reporting is considered by the Illinois EPA when a source or emission units at a source warrant quarterly reporting to address operation, independent of the occurrence of any deviations. This is the case for this plant, as they are required to perform continuous monitoring for the coal-fired boilers, for which quarterly monitoring reports are appropriate. Accordingly, reporting of deviations has generally been combined in, or coordinated with these quarterly reports so that the overall performance of the plant can be reviewed in a comprehensive fashion. This will allow a more effective and efficient review of the overall performance of the source by the Illinois EPA and other interested parties, as well as by the source itself.

At the same time, there are certain deviations for which more prompt reporting is still appropriate. These are deviations for which individual attention or concern may be warranted by the Illinois EPA, USEPA, and other interested parties. For this CAAPP permit, such attention has been placed primarily on deviations that could represent substantial violations of applicable emission standards or lapses in control measures at the source. For these purposes, depending on the deviation, immediate notification may be required and proceeded by a follow-up report submitted within 15 days, during which time the source may further assess the deviation and prepare its detailed plan of corrective action. Alternatively, notification for certain deviations may simply be required in 30 days.

Notwithstanding, in response to public comments and the USEPA’s responses to petitions, the Illinois EPA has enhanced certain reporting requirements in the permit. The

reporting requirements, as revised, have already been generally described in the Section of this Responsiveness Summary entitled General Explanation of Coal-Fired Power Plant Permit.

### Permit Shield

The extent of a permit shield provided by this CAAPP permit is generally addressed in Condition 8.1. This language is consistent with the CAAPP. Additionally, the extent of any Permit Shield is more specifically addressed by other conditions in the CAAPP permit that identify the applicable or nonapplicable regulations and control requirements to which the source is or is not subject. A CAAPP permit does not provide any permit shield for regulations or requirements that are not addressed in the CAAPP permit. This approach is consistent with the CAAPP. Accordingly, the USEPA has appropriately determined in responses to petitions that the language of Condition 8.1 satisfy the requisite requirements.

Moreover, the Illinois EPA has further reviewed the non-applicability provisions in the CAAPP permit to remove or revise provisions that could be misinterpreted as providing a permit shield. Most significantly, the Illinois EPA has removed provisions stating the permit is based on certain emission units not being subject to NSPS that only apply to new, modified or reconstructed emission units. This is because these statements could be interpreted as a determination by the Illinois EPA that such units are not new, or reconstructed units. In fact, no such determination was made by the Illinois EPA for such units. The provisions in question merely reiterated representations by the source in the CAAPP application regarding applicable rules. The provisions at issue were intended to memorialize the basis upon which the permit was prepared, and make clear that the source was not shielded from non-applicable requirements for new, modified or reconstructed units, if such requirements were in actual fact applicable to a unit. While the source has asked in their comments that such provisions be restored to the permit, this request was not accompanied by the detailed documentation necessary to support their request.

### Standard Permit Conditions

1. A comment was provided that Standard Permit Condition 9.2.3, entitled Duty to Cease Operation was incomplete. The June 2003 Draft CAAPP permit inadvertently failed to include the entire state statutory provision as set forth in the CAAPP in this condition. However, this condition was revised to address the concern. The revision appeared in the October 2003 proposed permit, subsequent versions of the CAAPP permit and the final CAAPP permit.
2. Public comment was received regarding Standard Permit Condition 9.12.1 entitled Permit Actions. The Illinois EPA had failed to inclusively recite the state statutory provision in the June and October 2003 versions of the CAAPP permit, but not subsequent versions of the permit.

3. Concerns were expressed for Standard Permit Condition 9.12.2(b) entitled reopening and revision because it omits the parenthetical and last sentence of Section 39.5(15)(a)(ii) of the Environmental Protection Act, which reads in full: “Additional requirements (including excess emissions requirements) become applicable to an affected source for acid deposition under the acid rain requirement. Excess emissions offset plans shall be deemed to be incorporated into the permit upon approval by USEPA.” The first of the two sentences appears in proposed CAAPP permit. However, the second sentence does not reflect the relevant procedure and has not been incorporated. As appropriately reflected in the USEPA’s responses to petitions, the failure to include this language is of no consequence, as it describes circumstances in which no changes to a CAAPP are needed.

4. Concern was expressed for Standard Permit Condition 9.10.2 entitled Emergency Provision. More specifically, concern was expressed for the use of the term “normally” and the use of examples in condition 9.10.2(a)(i) of the CAAPP permit. This term and the examples appeared in the June 2003 draft permit. However, the term and the examples have not appeared in the condition in the October 2003, later versions of the CAAPP permit and the final CAAPP permit.

Additionally, concern was expressed for the failure to address the burden of proof relative to this provision. The burden of proof is the obligation in a particular context to establish or defend a position. This burden exists as a matter of law. It is not an “applicable requirement” for CAAPP permitting purposes. That the Illinois EPA has not addressed this issue in the condition at issue or any other condition in the CAAPP permit is of no consequence.

#### Permit Conditions That Do Not Comply with State Regulations

1. Concern was expressed for the failure to directly address certain reporting requirements found in state regulations. For example, for the coal-fired boilers, reporting requirement found at 35 IAC 217 was not expressly included within the CAAPP permit. Rather, this reporting requirement was satisfied by a reporting requirement in the CAAPP permit set forth in general source-wide reporting. In addition, as the particular requirement is triggered by the formal request from the Illinois EPA sent to a source, soliciting copies of records, the requirement does not need to be included in the CAAPP permit to be implemented by the Illinois EPA. Nonetheless, given the concerns expressed in public comments, the Illinois EPA has explicitly included the relevant reporting requirement in the permit.

2. Concern was expressed that several conditions failed to include requirements in 35 IAC Part 201, Subpart L. First, as indicated in the October 2003 proposed permit and subsequent versions of the permit, Part 201 Subpart L does not pertain to SO<sub>2</sub> and NO<sub>x</sub>. Rather, the NSPS reporting requirements, by way of the federal Acid Rain Program, are the applicable requirements. The result is that this plant is not subject to requirements of Subpart L, as Part 201 Subpart L expressly excludes sources that are subject to NSPS monitoring. Any concern for the language of these regulations or for the failure to include

these regulations is misplaced as a legal matter as the provisions of concern are not applicable requirements. They are also misplaced technically as the NSPS and the Acid Rain Program represent more recent and advanced requirements for monitoring than those found in 35 IAC Part 201, Subpart L. This said, the Illinois EPA has drawn upon certain elements of 35 IAC 201.405 and the NSPS to delineate certain information that quarterly opacity reports must contain. However, any utilization of the state regulatory language is simply a means under the authority of CAAPP permitting to clarify the obligations on the source.

### Credible Evidence

Concerns were raised in public comment and in petitions to the USEPA that the CAAPP permit contained conditions that limit the use of credible evidence. Concern was further expressed that the standard credible evidence provision at Condition 9.1.3 insufficiently addresses the concern.

However, as properly noted by USEPA in its responses to petitions, these concerns are ill-founded. Contrary to the expressed concerns, where the permit identifies the means by which compliance with particular emissions limits or standards or other requirements are to be measured, these identified means are not the exclusive manner by which compliance may be measured. This is true whether the permit lists one, several or even all known compliance measures. Nowhere in the source wide, unit-specific, or standard conditions of this permit does it state an exclusive means for determining compliance. In fact, the standard condition makes clear that notwithstanding any compliance measures or procedures set forth within other portions of the permit, all available means of determining compliance may be utilized consistent with relevant legal principles and the technical issues posed with use of credible evidence.

Particular concern was expressed for a condition on the coal-fired boilers, which provides that continuous emissions monitoring shall be used to demonstrate compliance with the applicable standard. However, as discussed with respect to “periodic monitoring” CAAPP permits must include provisions by which compliance with applicable control requirements may be verified (See also Section 39.5(7)(p)(v)(B) of the Environmental Protection Act). In addition, concern was expressed with respect to that condition, which indicated that, for the boilers, compliance with the CO limitation is assumed to be inherent, or “expected,” under typical operating conditions. While the Illinois EPA maintains its technical position, it has deleted this explanatory note.

### Environmental Justice

Notwithstanding the uncertain relation between EJ issues and Title V permitting, during the permitting of this coal-fired power plant, the Illinois EPA has responded to the issue of Environmental Justice in several ways. As part of the public comment period, the Illinois EPA held a public hearing on the draft permit for this plant to facilitate input into the permitting process by the public.

In response to public comments, the Illinois EPA considered the impacts of the plant on the local community to determine whether this plant might be contributing to disparate impacts on minority or low-income communities, as relevant for a formal evaluation of environmental justice. This review did not identify impacts from the coal-fired boilers on local neighborhoods that were significantly higher than PM impacts on areas further away, so as to be disparate from a geographical perspective. This suggests a general concern for contribution to PM air quality, but not a particular concern as related to environmental justice. For criteria air pollutants other than PM, this plant generally contribute to air quality in the Greater Chicago metropolitan area and the region, but disparate impacts on the local neighborhood should not be expected. In addition, these impacts are associated principally with SO<sub>2</sub> and NO<sub>x</sub> emissions. The emissions of these pollutants are being addressed by USEPA's new Clean Air Interstate Rule (CAIR), which comprehensively addresses SO<sub>2</sub> and NO<sub>x</sub> emissions from power plants.

The Illinois EPA also reviewed the provisions of the permit for this plant to identify possible enhancements to the provisions for control of PM emissions from the coal-fired boilers. The extent of such potential enhancements was limited, because, as already explained, CAAPP permits are intended to address existing regulations and requirements for control of emissions, not to create new control requirements. Thus this permit should not and does not set limits for PM emissions that are lower than the limits that apply under existing regulations.

However, the Illinois EPA did identify one way in which the compliance procedures for PM emissions from the boilers could be crafted for this plant, and for power plants in general to focus attention on particulate matter emissions. The schedule for routine, periodic testing for PM is related to the measured test results. The base interval between required tests is nominally 12 months. (The permit specifies that these tests must be no more than 15 months apart, providing the additional three months as a contingency for unforeseen events that delay testing, such as an unexpected outage of a boiler.) The interval between these periodic tests becomes longer if the margin of compliance with the applicable PM limit is more than 20 percent. This approach to testing not only ensures compliance via periodic testing but also creates a direct incentive for the source to control emissions to a level that is significantly below the applicable regulatory limit.

A final, less direct action taken for PM emissions was the expansion of the provisions for testing. The permit requires measurements of "condensable" as well as filterable PM emissions from the coal-fired boilers. Historically, only testing of filterable PM was required of Illinois coal-fired boilers, as the applicable PM emission standards apply only to filterable PM. A requirement for testing condensable PM was imposed on the plant in the CAAPP permit to improve the quality of the PM emission data that is available for these plants. This is of particular benefit as it should assist in conducting assessments of the air quality impacts of power plants, including the Illinois EPA's development of an attainment strategy for PM<sub>2.5</sub> emissions for the Chicago metropolitan area. USEPA has adopted Method 202 for conducting such measurements. While USEPA is currently working to improve Method 202, to increase its accuracy, these efforts do not prevent or invalidate the use of the current method.

## Health Effects

Concern has been expressed for the effect of emissions from the coal-fired plant on public health. As such, the suggestion has been made that the Illinois EPA should limit emissions to levels below those that are required by current regulations and force the source to install additional control equipment. As stated elsewhere, the purpose of the CAAPP is to assure compliance with “applicable requirements.” The CAAPP does not authorize a state to impose substantive new requirements. This is particularly true where there exists no basis to do so. The application and comments for this permit lacks the information that could form the basis for the requested measures. What commentors seek are newer, more stringent regulations. This is simply not something that would be accomplished through permitting, much less CAAPP permitting. Rather, this is something that must be accomplished by adoption of new laws or regulations, on either the state or national level, as is occurring. This is particularly true as power plants contribute to air quality on a regional level, with long range transport, such meaningful reduction in the contribution of power plants to air quality also requires control programs that apply on a regional level.

## Opacity

### A. 8-Minute Aggregate Provision

Concern has been expressed by Midwest Generation that the permit inappropriately restricts the plant’s ability to rely on 35 IAC 212.123(b), a provision of the opacity rule that allows for opacity levels higher than the generally applicable limit of 30 percent in certain narrowly defined circumstances. This is because the permit requires the source to give advance notice of changes in the methodology that will be used to show opacity levels qualify for this provision. This notification requirement is appropriate given the nature of the exclusion, the means by which opacity is measured, and historic experience with this rule. While the permit appropriately develops the nature of the information that the source will have to possess to take advantage of this provision, this elaboration does not assure that the source understands and is acting appropriately to demonstrate that it qualifies for this provision. In particular, the provision requires a determination of opacity over a period of 8 minutes, which is not supported by the 6-minute averages routinely used to determine opacity. It also requires coordination of opacity data from all the emission units at the plant, rather than the consideration of opacity data on an individual unit basis. As such, the verification of the adequacy of the source’s methodology is best reviewed on an individualized basis when action is actually occurring. In this regard, it is similar to the performance of emission testing, for which a unit-specific test protocol is warranted, notwithstanding the extensive regulations that set forth the procedures to be used for testing emissions.

### B. Applicability of Opacity Limitation

Midwest Generation claims that certain emission units are fugitive emission units, rather than process emission units, so as to be excluded from the state opacity limitation, at 35 IAC 212.123. Nothing in the State's air pollution control regulations states that the opacity limitation does not apply to fugitive emission units. The regulations at issue broadly apply to "emission units." Moreover, while not applicable to power plants, elsewhere in the State's air pollution control regulations, opacity limitations are specifically set for fugitive particulate matter emissions at marine terminals, roadways, parking lots and storage piles. It is improper to suggest that the only emission standard applicable to the units at issue is 35 IAC 212.301, which provides fugitive PM emission may not be visible looking directly overhead at the property line. In this regard, Illinois's general emission standards for opacity are found in 35 IAC Part 212, Subpart B: Visible Emissions. These opacity standards are entirely separate from the standards in Subpart K: Fugitive Particulate Matter and the standards in Subpart L: Particulate Matter Emissions From Process Emission Units.

### C. Opacity Surrogate for PM

For the coal-fired boilers, the permit generally relies on opacity as a means to indirectly address emissions of PM. For this purpose, the permit requires that the source identify the level of opacity at which compliance with the applicable PM standard is assured. This level is described as an "upper bound of the 95 percent confidence level" of opacity. This terminology recognizes that even during normal operation of a boiler, there is variability in the opacity, that is, a range of opacity levels. The source is charged with identifying the upper bound, i.e., the highest value, within this range within which compliance with the PM limit can be assured. In this regard, the source is not being asked to determine a theoretical value for the level of opacity that might correlate with compliance/noncompliance with the PM standard. It is instead being asked to undertake a more pragmatic task to evaluate the range of opacity in which a boiler normally operates. The resulting value(s) are then used as the initial reference point with monitored opacity to differentiate operation of a boiler in a range within which the source believes that compliance with the PM emission limit is assured from other operation of that boiler. The source must also identify all excursions of the established opacity value in its routine quarterly reports, with description and an incident-specific explanation whether the applicable particulate matter emission limit may have been exceeded.

Key data for the establishment of this opacity value will be the test data collected for PM emissions from the coal-fired boilers, with associated opacity data. This data may also be supplemented with other analytical data as part of diagnostic work performed on an ESP or other engineering evaluation. The source is required to submit this value to the Illinois EPA, along with supporting explanation and documentation. This allows for independent review of this information by the Illinois EPA and others. At a more basic level, it assures that the fundamental information upon which the source is relying to assure its coal-fired boilers comply with PM emission standards is in the public domain. As additional PM emission data becomes available from emission testing, the source must review its determination. If the test data leads the source to revise the value, the source must submit the new value (or values) to the Illinois EPA with a new evaluation and

supporting documentation. In this regard, the Illinois EPA would anticipate that the value would only become higher, as additional data demonstrates that compliance can still be assured at higher levels of opacity. Alternatively, if test data addresses an alternative mode of operation, in a circumstance where a boiler is operated in two or more distinct modes of operation, a separate value can be prepared for each mode of operation, with separate explanation and documentation for distinct mode of operation. For example, in the unlikely event that a coal-fired boiler switches to routine operation with both coal and natural gas, additional opacity value(s) would have to be established to address this alternative mode of operation. This could be done either on a conservative basis, considering the effect of the maximum level of natural gas usage on the applicable PM limit for the particular boiler, or on a sliding scale, considering the effect of different levels of natural gas usage on the applicable PM limit.

This approach reflects a careful consideration of the technical circumstances of the coal-fired boilers at coal-fired power plants, including the Waukegan plant, that are equipped with ESP for control of PM emissions. Technically, opacity has a long history of being used as an indicator for PM emissions. Opacity can be monitored on a continuous basis and directly provides a quantitative measurement that is indicative of the overall performance of a particular boiler and its PM control system. First, use of opacity avoids the need to consider aspects of boiler operation that can affect the level of uncontrolled PM in the ductwork entering the PM control system. Then, use of opacity avoids reliance on the detailed operating parameters of the PM control system on a boiler. In this regard, the ESPs used on the coal-fired boilers at power plants are best considered a number of separate control devices, each with their individual electrical systems. Thus, the performance of an ESP may be the aggregate result of the performance of separate sections, depending on the size and design of the ESP. These sections are arranged both across the gas flow and in series, so that the performance of no individual section is critical to the overall performance of the ESP. In addition to being affected by its electrical parameters (voltages), the performance of each section is also affected by factors that cannot be measured, such as buildup of ash on the collecting plates, re-entrainment of ash during rapping, variation in resistivity of the fly ash, gradual deterioration of the collecting plates and breakage of discharge wires. All these factors should be considered and accounted for in the design and maintenance of an ESP, as an ESP must still perform adequately when it is approaching the next scheduled maintenance. However, these factors do mean that for purposes of the periodic monitoring required in this CAAPP permit, continuous opacity monitoring is a far more practical technique than reliance on monitoring of operating parameters to address the performance of a boiler and its associated ESP.

This approach also reflects the circumstances of this plant with respect to the body of test data that is available for PM emissions, and opacity levels and values of ESP operating parameters during such tests. The lack of a body of such data prevents establishment of opacity levels or values of ESP operating parameters at this time that can be precisely coordinated with compliance with the applicable PM emission standards. It also makes it impossible for the Illinois EPA to unilaterally establish opacity levels that are to be treated as excursions relative to the applicable PM standards, in a manner that would

withstand appeal by the source. This is particularly true, as the Illinois EPA is required to resubmit a proposed CAAPP permit to USEPA within 90 days of its objection.

In these circumstances, where development of unit-specific relationships between parametric monitoring and compliance with emission standards is not possible because data is lacking and collection of necessary data is not feasible prior to issuance of the permit, it is appropriate in a CAAPP permit to place the burden to develop and maintain such relationship upon the source. In this regard, the source can identify and set levels of opacity that it considers reliably assure compliance with PM standards. However, given the likely conservatism needed in such values, exceedances of such levels should not immediately be considered to indicate violations of the PM standards. Rather they would constitute periods of operation when PM compliance is uncertain and must be pursued with further evaluation by the source on a case-by-case basis. The Illinois EPA has also included provisions in the CAAPP permit for periodic testing of PM emissions from the boilers, with collection and reporting of data for ESP operating parameters and opacity data during testing, to facilitate the continued maintenance and refinement of the relationship between opacity and PM emissions from the coal-fired boilers at the plant.

Midwest Generation has generally “objected” to the use of opacity as a surrogate for the PM emitted from their coal-fired boilers. This objection is not well founded. Periodic testing of PM emissions, even on annual basis, is not sufficient to confirm compliance with the applicable PM limits on an hour-by-hour basis. Midwest Generation has not provided data for the specific operating practices that it would propose to rely upon to demonstrate compliance with applicable PM limits on a continuous basis, much less show that such practices would fully address the various phenomena that affect PM emissions from a coal-fired boiler. While opacity is certainly not a perfect surrogate for PM emissions, however, this is not uncommon with surrogates, which by their very nature, stand in place of another. Still, opacity monitoring has a long history of being used to assess the performance of PM control devices. In this regard, opacity is certainly a robust means to distinguish compliant operation of a coal-fired boiler and its ESP from impaired operation, for which further investigation or remedial action should be initiated. This is the approach that has generally been taken historically with opacity. This is also the approach that has been taken in this permit with respect to opacity monitoring.

Moreover, Midwest Generation has not come forward with an alternative approach in place of reliance on opacity monitoring as the primary surrogate for PM emissions on a day in, day out basis. Indeed, this source also acknowledges that ESP performance also is not a measure for establishing quantitative PM emission levels. It suggests that stack tests are the only means to demonstrate compliance with the PM emission standard. This is not a constructive comment, as stack tests cannot be conducted on a continuous basis. In this regard, the source is effectively under a comparable obligation with respect to performing periodic monitoring as the CAAPP permit is for providing periodic monitoring. The CAAPP source must certify compliance on an annual basis with the applicable PM limits. This necessitates use of sound methods and reasonable inquiry by the source to verify compliance with a PM standard that applies on an hour-by-hour basis. This necessitates a simple approach that readily assures compliance most if not all

of the time, with detailed analytical effort to confirm compliance focused on a small number of operating hours. This is fully consistent with the approach being taken in this CAAPP permit.

From a legal perspective, a final issue is whether the CAAPP permit must set a specific level of opacity that is deemed to be equivalent to the applicable PM emission limit. As already discussed, this is not possible on a variety of levels. At a minimum, such action, if flawed, could inappropriately shield the source from the underlying PM emission standard. It would also be inevitable that such an action would be flawed as the operation of a boiler may change over time and the coal supply will also change, affecting the nature and quantity of the ash loading to the ESP. These type of changes cannot be prohibited, as they are inherent in the routine operation of the coal-fired power plant. However, such changes could invalidate any pre-established opacity value. In addition, as also noted in comments by environmental organizations, there is a limited amount of historical test data to make such an exact correlation between opacity and PM. Finally, under the CAAPP, this permit does not require that such a determination be made. Rather this permit need only include such provisions as are needed to assure compliance. This can be accomplished without setting a specific level of opacity in the permit. This is not without a desirable environmental consequence, as it by necessity obligates the source to operate with ample margins of performance such that compliance with the applicable PM limits is assured.

#### Compliance Assurance Monitoring

Compliance Assurance Monitoring (CAM), as formally set forth by 40 CFR Part 64, is not directly relevant to this CAAPP permit, which is the initial CAAPP permit for the plant. In addition, the source has not submitted the necessary information for the emission units at this plant upon which to make a formal determination of CAM applicability. While it is likely that most emission units supporting the coal-fired boilers at this plant will not be subject to CAM, it is not appropriate for the Illinois EPA to address this subject at this time. Accordingly, references to this issue in the permit including any non-applicability determinations have been stricken.

### **FOR ADDITIONAL INFORMATION**

Questions about the public comment period and permit decision should be directed to:

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Illinois Environmental Protection Agency  
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Springfield, Illinois 62794-9506  
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ATTACHMENT 1

217/782-2113

CERTIFIED MAIL

December 23, 2005

United States EPA, Region 5  
Attn: Pamela Blakley, Chief  
Air Permitting Section  
77 West Jackson Blvd. (AR-18J)  
Chicago, Illinois 60604-3507

Re: Resubmittal of Proposed CAAPP Permit for the Waukegan Generating Station

Dear Ms. Blakley:

Accompanying this letter, the Illinois Environmental Protection is resubmitting a proposed Clean Air Act Permit Program (CAAPP) permit for Midwest Generation's Waukegan Generating Station (I.D. Number 097190AAC, Application 95090047) to USEPA for its review in accordance with Section 505 of the Clean Air Act. The revised proposed permit and this letter respond to the issues raised in the USEPA's objection, dated September 28, 2005, to the issuance of the prior version of the proposed permit for this source.

In its objection to the prior proposed CAAPP permit for this source, the USEPA identified four bases for its objection: 1) the permit may not include all the applicable requirements for the source, 2) the statement of basis does not meet the requirements of 40 CFR 70.7(a)(5), 3) the permit does not contain all the necessary periodic monitoring required by 40 CFR 70.6(a), and 4) the public notice published by the Illinois EPA does not clearly inform EPA and the public whether the Agency made Title I changes in the permit action. The following discussion is a narrative guide to where and how these four bases for objection have been addressed in the proposed permit and the Responsiveness Summary. This narrative also elaborates upon why the Illinois EPA has adequately addressed these objections.

Issue 1 – Applicable Requirements

**Summary of Objection – “The Illinois EPA must review its records to determine whether the conditions in the state operating permits, including permits 73030831, 75030155 and 73030829 are applicable requirements (within the meaning of 40 CFR 70.2) for the Waukegan facility.”**

Response - Since the state operating permit program is part of Illinois' State Implementation Plan, it is the Illinois EPA's understanding that the USEPA is requiring the Illinois EPA to address whether conditions in various state operating permits issued to the Waukegan Generating Station may be applicable requirements. In 40 CFR 70.2, an applicable requirement is defined, among other things, as any standard or other requirement provided for in the applicable implementation plan approved or promulgated by USEPA through rulemaking under Title I of the Clean Air Act that implements the relevant requirements of the Act. This definition of applicable requirement is also contained in Illinois' approved Clean Air Act Permit

Program (CAAPP) at Section 39.5 of Illinois' Environmental Protection Act, which is the basis against which CAAPP permits developed by Illinois EPA should be reviewed.

The Illinois EPA has determined that the current state operating permits issued to Midwest Generation's Waukegan Generating Station, including permits 73030831, 75030155 and 73030829, which address the coal-fired boilers, are not federally enforceable, as stated in the Responsiveness Summary, pages 12 and 13. This is because these permits were not issued using the necessary procedures for these permits to qualify as federally enforceable. One of the requirements for operating permits to be federally enforceable is that the permits must be subject to public participation, with notice to the public and opportunity for public comment. The drafts of the permits must also be submitted to USEPA for its review and comment. (54 FR 27274, June 28, 1989). Drafts of these operating permits were not made available to the public or USEPA for comment.

These operating permits were also not prepared with the intent that they would be federally enforceable. In the above notice of rulemaking, USEPA also observes that it "... expects that States will for purposes of clarity and administrative efficiency, indicate within the federally enforceable permits that they are being accorded such status." These permits were not designated as being federally enforceable operating permits, since neither the source nor the Illinois EPA intended that the permits would be afforded status as federally enforceable.

While Illinois does have a Federally Enforceable State Operating Permit Program in its State Implementation Plan, approved at 57 FR 59928 (December 17, 1992), this program does not extend to all state operating permits. As specifically stated at 40 CFR 52.737, "Emission limitation and other provisions contained in operating permits issued by the State in accordance with the provisions of the federally approved permit program (emphasis added) shall be the applicable requirements of the federally approved Illinois SIP." This program was approved to provide the State of Illinois with the ability to issue Federally Enforceable State Operating Permits (FESOP), as would be useful for a variety of purposes. However, this does not make all state operating permits issued by the Illinois EPA federally enforceable. In particular, the current state operating permits for the Waukegan Generating Station, including permits 73030831, 75030155 and 73030829 were not issued pursuant to the program approved at 40 CFR 52.737 and are not federally enforceable. Therefore, the conditions in these permits are not applicable requirements as that term is defined within 40 CFR 70.2 or Section 39.5 of Illinois' Environmental Act.

The Illinois EPA has reviewed the equipment and operations at the plant, as described in the CAAPP application, and prepared a proposed CAAPP permit for Midwest Generation's Waukegan Generating Station that appropriately includes the applicable requirements for the emission units at the plant. Applicable requirements that generally apply to the plant are found in Sections 5.0, 8.0 and 9.0 of the permit. Applicable requirements that apply to the various significant emission units at the plant are found in Sections 6.0 and 7.0 of the permit.

#### Issue 2 – Statement of Basis

**Summary of Objection - The Illinois EPA must include in the permit record a statement of the legal and factual basis for: 1) Prompt reporting decisions under 40 CFR 70.6(a)(3)(iii)(B); 2) Exclusion of certain previous state operating permit terms and conditions; 3) Recordkeeping and periodic monitoring decisions under 40 CFR 70.6(a)(3)(i)(B) and (C); 4) Streamlining analyses; and 5) Non-applicability determinations, including a discussion of permit shields, as well as other decisions that the Illinois EPA made in drafting the permit. The Illinois EPA must make available**

**to the public and adequate statement of basis that provides the public and USEPA an opportunity to comment on the permit and its terms and conditions as to the issues identified above.**

General Response - The Illinois EPA has developed an extensive record for the permitting of the Waukegan Generating Station. Among other documents, this record includes a Project Summary, various versions of the CAAPP permit itself, and three versions of a Responsiveness Summary, including the Responsiveness Summary, dated December 1, 2005, that specifically addresses the Illinois EPA's proposed action on the CAAPP permit for the Waukegan Generating Station. These documents set forth in general terms the legal and factual basis for the five topics specifically identified above, as well as other decisions made by the Illinois EPA in developing the proposed permit for this plant.

Response Related To Prompt Reporting Decisions – These decisions reflect the Illinois EPA's consideration of the possible nature of deviations by different emission units and the responses that might be required or taken for those different types of deviations. As a consequence, the conditions for different emission units may identify types of deviations for which: 1) Immediate (or very quick) notification is required; 2) Notification within 30 days is appropriate; or 3) Notification with regular quarterly monitoring reports is sufficient.

Prompt Reporting for Coal-Fired Boilers - For deviations from the opacity limit by the coal-fired boilers, notification of deviations is generally required on a quarterly basis, as part of the periodic quarterly monitoring reports, as discussed in the Responsiveness Summary, pages 36 and 37. These coal-fired boilers are equipped with continuous opacity monitors and quarterly reporting is required for the operation of these systems. For coal-fired boilers equipped with continuous opacity monitoring systems, quarterly reports have been determined to be acceptable by the USEPA. For the coal-fired boilers at the Waukegan Generating Station, the Illinois EPA accepts this and concurs that this timing for notification of deviations is generally appropriate as related to opacity.

At the same time, Condition 7.1.10-3 of the permit also identifies certain opacity exceedances by a coal-fired boiler for which more rapid notification is required, as noted in the Responsiveness Summary, page 37. The source must immediately notify the Illinois EPA of an incident, other than during startup of a boiler, in which the opacity from a boiler exceeds 30 percent for five or more 6-minute averaging periods, unless the Permittee has begun the shutdown of the boiler by such time. In addition, upon conclusion of each incident in which the duration of opacity exceedances is two or more hours, the source must submit a follow-up report to the Illinois EPA within 15 days. These notification requirements also apply for any exceedances of the PM emission limit by a coal-fired boiler. These time periods for notification for certain deviations are included in the CAAPP permit so that the Illinois EPA and others are informed of and can readily initiate action, if and as necessary, for deviations whose magnitude might warrant individual action, without having to wait for the next quarterly monitoring report.

For the coal-fired boilers for CO, notification of any deviation is required on a quarterly basis, as part of the periodic quarterly monitoring reports for the boilers. Since these boilers are not equipped with continuous CO monitors, the permit requires the source to conduct combustion evaluations, which include measurements of CO concentration, on at least a quarterly basis. Deviation reporting in the quarterly reports was chosen to be consistent with the frequency at which these evaluations must be performed. This is because a "deviation" would most likely entail the failure to perform required a combustion evaluation, rather than a

deviation from the CO limit. Quarterly reports would also be adequate for any deviation from the CO limit itself. This is because CO emissions are not controlled by air pollution control equipment, so they do not have the potential to rapidly change as the result of a failure of a control device. Accordingly, quarterly reports are considered sufficient to allow for appropriate response to any deviations for CO.

Prompt Reporting for Coal Handling/Processing – Deviation reporting for these emission units is multi-faceted: 1) For an event in which opacity exceeds the applicable limit for five or more 6 minute averages, the event shall be reported immediately; 2) For an “extended event,” in which the opacity exceeds the applicable limit for more than 2 hours, a follow-up report shall be submitted within 15 days of the event; 3) If the measures used to control PM emissions are not maintained for longer than 12 hours, a report shall be submitted within 30 days; and 4) Any and all deviations from the applicable emission limit, or inspection, recordkeeping or other requirement shall be reported with the quarterly monitoring reports for the coal-fired boilers. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention.

As an example, operating personnel view the coal handling and processing facilities on a day-to-day basis as part of their operation of these units. (The permit also requires formal, “quality control” type inspections, on a monthly or weekly basis, to verify that the measures used to control PM emissions are being properly implemented.) The timeframe for reporting individual events when control measures are not implemented is set at a 12 hours. This is because the problems that would cause interruptions in control measures should be able to be readily corrected, within the shift or at the most, part way into the following shift. Any event that lasts longer than 12 hours warrants an expedited notification, within 30 days, explaining the cause for the deviation itself and the “failure” of the normal practice to readily identify or correct the interruptions in control measures (i.e., why it took so long to restore control measures or undertake other corrective actions). The timing for these event-specific notifications is necessary and appropriate as it gives the source enough time to conduct a thorough investigation into the causes of an event, collecting any necessary data, and to develop preventative measures, to reduce the likelihood of similar events, all of which must be addressed in the notification for the deviation.

Response Related To Exclusion Of State Operating Permit Conditions - The Illinois EPA discusses in the Responsiveness Summary, pages 13 and 14, the reasons why conditions in the current state operating permits for the Waukegan Generating Station were not carried over into the CAAPP permit. As explained above for Issue 1, the conditions of these permits are not applicable requirements. In addition, the conditions of these permits are considered patently obsolete or irrelevant as compared to the conditions of the proposed CAAPP permit, which have been developed in accordance with Title V of the Clean Air Act. As the conditions of these state permits attempt to identify applicable emission standards, they are incomplete. As they authorize startup of the boilers with excess emissions and continued operation with excess emissions during malfunction or breakdown, they fail to address all relevant obligations on the source that accompany such authorizations. As conditions reference specific correspondence and plans, such material is likely outdated and, in any event, addresses matters that should be subject to periodic review and revision by the source. As certain conditions restrict particular aspects of boiler operation, the conditions do not provide the flexibility in operation of the boilers, with respect to fuel supply, operating load and other aspects of operation, to which the source is entitled in a CAAPP permit. Recordkeeping and reporting conditions are obsolete as they fail to address requirements related to emissions and opacity monitoring that now apply under the federal Acid Rain

program. When compared to the conditions of the proposed CAAPP permit, the conditions of these existing state permits would generally qualify as environmentally insignificant, as described in USEPA's White Paper I, even if they were applicable requirements.

Response Related To Recordkeeping And Periodic Monitoring Decisions – The approach taken for periodic monitoring for the different emission units at the plant is generally explained in the General Description of the Plant and Proposed Permit in the Responsiveness Summary, pages 6 through 12. Particular aspects of periodic monitoring for different units are further addressed in response to specific comments, with pages 34 through 36 addressing many comments on this subject. Finally, the elements of periodic monitoring for specific emission units are summarized in the CAAPP permit itself, in Conditions 7.x.12.

As a general matter, the permits include a set of work practice and inspection requirements, testing requirements, monitoring requirements, recordkeeping requirements, and reporting requirements for each significant emission unit to address compliance with the applicable requirements that control emissions from the unit. To the extent that such requirements were lacking from applicable regulations or were considered insufficient, new or additional requirements were imposed. The result is sets of pollutant-specific periodic monitoring provisions for the various categories of units that the Illinois EPA has determined are both necessary and reasonable to address compliance with the emission control requirements that apply to such units.

For the coal-fired boilers, the focus has been the periodic monitoring for PM and CO, as continuous emissions monitoring is conducted for SO<sub>2</sub>, NO<sub>x</sub> and opacity, pursuant to various applicable regulations. The approach to periodic monitoring for PM is specifically addressed in Issue 3, below. For CO, the permit generally includes requirements for periodic emission testing and recordkeeping related to proper operation and maintenance of the boilers, which serve as periodic monitoring for CO. However, as discussed in the Responsiveness Summary on page 34, a key element of the periodic monitoring for CO emissions from the coal-fired boilers is found in Condition 7.1.6(a), which establishes a work practice that directly relates to CO emissions. This is performance of combustion evaluations for each boiler on at least a quarterly basis. These evaluations must include diagnostic measurements of the concentration of CO in the flue gas of the boiler, with adjustments and preventative and corrective measures for the boiler's combustion systems to maintain efficient combustion. This practice is a reasonable measure, which should assure that the CO emissions of the boilers remain well below the applicable CO limit, even given ongoing efforts to lower NO<sub>x</sub> emissions from the boilers. These combustion evaluations should identify any shifts in the CO emissions of the boilers, allowing corrective actions to be taken before the level of the applicable standard is approached. If the source does not already perform evaluations of this type as part of its normal operation of the boilers, it should do so. Given that the changes in CO emissions to be identified by these evaluations are expected to occur gradually, with degradation of the features of the boiler that determine combustion efficiency, performance of these evaluations on a quarterly basis should be adequate to allow timely corrective actions to be taken, on a preemptive basis, so that compliance with the CO standard is maintained.

For coal handling, coal processing and fly ash handling units, the permit generally includes requirements for appropriate work practices to control emissions, periodic opacity testing, and recordkeeping related to proper operation and maintenance of equipment, which serve as periodic monitoring for both opacity and PM emissions. A key element of the periodic

monitoring is formal, “quality control-type” inspections of these operations, as discussed in the Responsiveness Summary, pages 20 and 34. These inspections are required to be performed on at least a monthly and weekly basis for coal handling and fly ash handling units, respectively. The Illinois EPA set this timing for these inspections based on consideration of the respective nature of the units and their potential for PM emissions. In particular, PM emissions are incidental to the handling of coal, which is comprised mainly of material that is too large to become airborne. PM emissions from handling coal are amenable to control by a variety of techniques and measures, including use of water sprays, which can be readily applied in the event of loss of regular control measures. In contrast, fly ash is collected PM emissions from the coal-fired boilers, which is composed entirely of fine material. Dry fly ash has far greater potential to become airborne if it is lost to the environment, compared to coal. The sale of fly ash for beneficial use also requires that the material be kept dry, which would act to discourage the use of water sprays to control emissions in the event of loss of regular control measures. Finally, if fly ash does become wet, it is a waste material with little if any value. Based on the review of the differing nature of coal and fly ash, formal inspections of fly ash handling operations need to be more frequent than the inspections of the coal handling operations. This led the Illinois EPA to require formal inspections at least monthly and weekly for of coal handling and fly ash handling operations, respectively.

Response Related To Streamlining Analyses – While USEPA has suggested that CAAPP permits can reduce the burden on sources by allowing multiple emission control requirements to be reduced to the single, most stringent requirement, the Illinois EPA has not engaged in streamlining of emission standards in this permit, or for that matter, to any significant degree in the CAAPP permits for other coal-fired power plants. This is because of the differences in averaging times associated with different emission standards. It is also due to the differences in the “other provisions” that accompany different emission standards and refine or modify their implementation.

An example of the standards in this permit that have not been streamlined are the various standards that apply to NO<sub>x</sub> emissions from Boilers 7 and 8. In particular, the permit does not excuse the source from complying with the state standard for NO<sub>x</sub> at 35 IAC 217.141 (e.g., 0.9 lb/million Btu for firing of solid fuel), because the units are subject to a “stricter” emission standard under the federal Acid Rain Program (i.e., 0.40 lb/million Btu) or 35 IAC 217.708 (i.e., 0.25 lb/million Btu). This is because these stricter standards apply on an annual and seasonal basis, respectively, and the particular regulations include provisions whereby compliance can potentially be shown in aggregate, by averaging with other affected units.

The USEPA has also suggested that CAAPP permits can reduce the burden on sources by allowing a permitting authority to condense diverse regulatory requirements for monitoring or recordkeeping to a single set of requirements, which reflect the most stringent requirements. However, similar to its approach for emission limits, the Illinois EPA has not broadly engaged in this type of streamlining in this permit or, for that matter, in the CAAPP permits for other coal-fired power plants. With respect to monitoring, this is because the relevant regulations or USEPA guidance governing monitoring already provide for such “streamlining,” allowing more stringent regulations governing monitoring to be acceptable for their purposes as well. With respect to recordkeeping, this is because such streamlining would only be feasible if applicable emission control requirements were first streamlined, which, as previously indicated, has not occurred.

Response Related To Non-Applicability Determinations And Permit Shields – As CAAPP permits are intended to list applicable regulatory requirements, it is inherent that they may also identify certain requirements that are not applicable. Non-applicability determinations or provisions are found in Conditions “7.x.5” of the permit. These conditions include both the relevant regulatory provision or finding and the underlying basis for the provision or finding. At one end of the spectrum, these conditions merely reflect applicable regulatory language and are included in the CAAPP permit for clarity, especially as CAAPP permits are prepared to be understandable by individuals who are unfamiliar with the details of air pollution control regulations. At the other end of the spectrum, these provisions entail the exercise of the Illinois EPA’s technical judgment and knowledge of the historical implementation of air pollution rules in Illinois.

Non-applicability determinations also serve to shield a source from the requirement that is identified as being non-applicable, at least until the circumstances of the subject emission unit change. This is because a non-applicability determination provides the permit shield when the Illinois EPA, in acting on the application, has determined that other requirements specifically identified are not applicable to a source and this determination (or a concise summary thereof) is included in this permit, as provided by Section 39.5(7)(j) of the Environmental Protection Act. As USEPA is aware, the availability of permit shields in Illinois’s CAAPP permits is explicitly provided for and required by Section 504(f)(2) of the Clean Air Act. The Illinois EPA is obligated to include provisions in a CAAPP permit that provide for permit shields when requested by an applicant, as Midwest Generation has done for the Waukegan Generating Station. Accordingly, as will be discussed later in this document, the regulatory requirements for which the CAAPP permit is silent and the Illinois EPA has refrained from making non-applicability determinations are also important when considering this subject.

The first example of a simpler non-applicability provision in the CAAPP permit is Condition 7.1.5(a), which addresses one of the coal-fired boilers at the plant. This condition states “the permit is issued based on affected boiler Unit 6 not being subject to 35 IAC 217.141(b) (Condition 7.1.4(e)) because it is a cyclone-fired boiler.” Boiler 6 is commonly recognized to be a cyclone-fired boiler, which is a type of boiler to which 35 IAC 217.141(b), by its own terms, does not apply. This provision merely recites applicable regulatory language. This provision is included in the permit for clarity and informational purposes, as the distinction between the other types of boilers to which this standard does apply, and cyclone-fired boilers, might otherwise not be recognized.

Another simple non-applicability provision is Condition 7.4.5(a), “This permit is issued based on the affected processes not being subject to the New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants, 40 CFR Part 60, Subpart OOO, because the affected processes do not meet the definition of a nonmetallic mineral processing plant because there is no equipment used to crush or grind fly ash.” Once again, this provision merely recites applicable regulatory language, which is relevant as this equipment does not meet the applicable definition of a processing plant and therefore is not subject to this NSPS. Moreover, if equipment were proposed to be installed to crush or grind ash, a construction permit would be required for that equipment and that permit would necessarily address the regulatory consequences of the new equipment for other existing operations.

A final example of a simple non-applicability provision is Condition 7.5.5(d), “This permit is issued based on the affected turbines not being subject to the control requirements of 40 CFR 63 Subpart YYYY, the NESHAP for Stationary Combustion Turbines because the

turbines qualify as existing turbines, i.e., they were constructed prior to January 15, 2003, as provided by 40 CFR 63.6090(b)(4).” This provision includes a note stating “An affected turbine would potentially become subject to the control requirements of this NESHAP if it were to be reconstructed on or after January 15, 2003.” This provision merely reiterates the relevant regulations. It is included in the permit as NESHAP typically apply to “all” emission units in a source category, both new and existing, irrespective of age, unlike NSPS, which only apply to “new” units (i.e., units that were constructed, modified or reconstructed after the specific date(s) associated with the particular NSPS). As related to applicability of 40 CFR 63 Subpart YYY to the turbines at the Waukegan Generating Station due to reconstruction, Midwest Generation has not applied for a construction permit or otherwise notified the Illinois EPA, under PSD, 40 CFR 52.21(r)(6), that the turbines have been reconstructed on or after January 15, 2003, as shown by the Illinois EPA’s records. In the unlikely event a turbine were proposed to be reconstructed (in 2003 and 2004 each of the turbines operated for less than 10 hours), a construction permit would be required to address not only applicability of this NESHAP, but also applicability of the NSPS, 40 CFR 60 Subpart GG.

Condition 7.5.5(a) provides an example of an intermediate level of non-applicability determination, “This permit is issued based on the affected turbines not being subject to the requirements of 35 IAC 212.321 or 212.322 because, due to the nature of such units, a process weight rate can not be set so that such rules can not reasonably be applied, pursuant to 35 IAC 212.323.” This determination combines technical knowledge about turbines and particular knowledge about Illinois’ regulations. The term “process weight rate” is defined at 35 IAC 211.5250, which was adopted with the original adoption of 35 IAC 212.321 and 212.322. The definition of the process weight rate is “...the actual weight or engineering approximation thereof of all material except liquid and gaseous fuel and combustion air introduced into any process per hour.” While a turbine is a process emission unit under the regulations, the definition of process weight rate results in turbines (and engines) having a process weight rate of zero, since only air and liquid or gaseous fuel are introduced into these units. Unlike a furnace or kiln, there is not some other “process” material being melted, refined or treated in the operation of a turbine. In the absence of a process weight rate other than zero, which would allow the graduated PM limits of 35 IAC 212.321 and 212.322 to be applied to a turbine, these rules cannot reasonably be applied. In this regard, 35 IAC 212.321 specifically provides that 35 IAC 212.321 and 212.322 shall not apply to units to which “...such rules cannot reasonably be applied.”

The first example of the complex non-applicability determination in the permit is Condition 7.2.5(a) for the coal handling operations, “The affected operations are not subject to 35 IAC 212.321 or 212.322 because of the disperse nature of the operations, as generally addressed by 35 IAC 212.323.” This determination reflects historic practice in Illinois with respect to coal handling operations at Illinois’ existing coal-fired power plants. In addition to the coal piles themselves, the coal handling operations directly serving the coal stockpiles and other coal handling operations involve long conveyors that are themselves spread across coal yards that typically extend over many acres. The barge and rail car unloading operations also sprawl across significant areas. As such, 35 IAC 212.321 and 212.322 have not been found to be readily applied to these operations. 35 IAC 212.123 and 35 IAC Part 212 Subpart K, which specifically targets emission of fugitive particulate matter, have been found to be sufficient to assure an appropriate level of control of PM emissions from these operations. Incidentally, this is not the situation for the coal crushing or processing units at the plant for which 35 IAC 212.321 and 212.321, and 35 IAC 212.123 and 35 IAC Part 212 Subpart K have been applied. This is the reason why the proposed CAAPP permit

separately addresses coal handling operations and coal processing in Section 7.2 and 7.3, respectively.

The second example of a complex applicability determination is Condition 7.1.5(b) for the coal-fired boilers. This condition is addressed in the Responsiveness Summary, pages 35 and 36. This condition sets forth when a boiler will be considered to be using solid fuel (coal) or a combination of solid fuels and other fuels. In particular, the source is shielded from certain state emission standards addressing use of a combination of solid, liquid and gaseous fuels when a boiler is using coal as its principal fuel and any use of gaseous or liquid fuels is incidental to the use of coal. If a boiler would fire gaseous or liquid fuels for other than incidental purposes, at any rate of use, the source must fully comply with the applicable rules for combination of solid fuels and other fuels. For this purpose, the use of natural gas or fuel oil is considered incidental to the use of coal if it occurs for specific purposes associated with routine firing of coal, such as startup, opacity reduction, emission mitigation, flame stabilization, outage of a coal pulverizer, or other temporary interruption in the coal supply. As specifically explained in the condition, this non-applicability determination was made because incidental use of other fuels generally serves as a good combustion practice for firing of coal. In addition, incidental use of supplemental fuels does not provide a decrease in emissions that can be used to reduce the emission rate that must be achieved for the emissions associated with combustion of coal, as the use of supplemental fuel is both small and temporary. This provision reflects the historic application of the relevant state regulations, in which the incidental use of supplemental fuel to facilitate compliant operation with coal has not resulted in shifting over to the emission limits for burning a combination of fuels. This approach is necessitated as continuous emissions monitoring is now conducted for the boilers for SO<sub>2</sub>, NO<sub>x</sub> and opacity, which provides continuous compliance data but is unable to readily account for incidental use of supplemental fuels.

A.

The Illinois EPA has been careful in developing the conditions of the permit that contain non-applicability determinations. As discussed in the Responsive Summary, pages 37 and 38, the Illinois EPA has not included all non-applicability determinations in the permit requested by Midwest Generation. Non-applicability determinations are based on the straightforward factual information in the CAAPP application and the Illinois EPA's knowledge and experience. In particular, as detailed information that is potentially needed to determine that an emission unit has not been modified has not been provided in the CAAPP application by the sources, the Illinois EPA has not made non-applicability determinations relative to NSPS or NSR. Instead, the Illinois EPA has included Condition 5.2.7(b) in the permit to specifically place the source on notice that no such action has been taken, "This permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification under Title I of the CAA."

B. Issue 3 – Periodic Monitoring

**Summary of Objection - For the coal-fired boilers, the Illinois EPA must include a specific opacity limit or a method for determining an opacity limit that would correlate the results of the PM testing and the opacity limit in a manner that assures compliance with the PM limit, and must incorporate into the permit specific operational limits (upper or lower level) and/or operational ranges or a method for determining the ranges.**

Response – For the coal-fired boilers at the Waukegan Generating Station, which are the subject of this issue, the permit does not specify opacity limits that directly correlate to the applicable PM limits. The Illinois EPA does not believe this is reasonable and appropriate at this time in light of the lack of a body of quality assured data available to the Illinois EPA and the public upon which to base such limits on opacity. In these circumstances, it is appropriate for a CAAPP permit to set forth a method and schedule for development of unit-specific relationships between opacity data and compliance with PM limits, as has been done in the proposed permit for the Waukegan generating Station.

USEPA has stated that when development of a unit-specific relationship between parametric monitoring and compliance with an applicable emission limit is not possible because data is lacking and collection of necessary data is not feasible prior to issuance of a Title V permit, it is appropriate for the permit to place the burden to develop and maintain such relationship upon the source. (For example, refer to *Periodic Monitoring Guidance for Title V Operating Permit Programs*, memorandum from Eric Schaeffer and John Seitz, USEPA, September 15, 1998, or USEPA's regulations for Compliance Assurance Monitoring, 40 CFR Part 64.) In this regard, the source can identify and set levels of opacity at which it believes it can reliably assure compliance with PM limits. As discussed extensively in the Responsiveness Summary, pages 42 through 46, the Illinois EPA has followed such an approach in the permit, including imposing certain requirements in the permit for the method that is used to determine the level of opacity for each coal-fired boiler that correlates with assurance of compliance with the applicable PM limit.

Condition 7.1.7(a)(i) of the proposed permit also would require Midwest Generation to perform the necessary PM emission testing to generate this opacity data as soon as possible but not later than 180 days after the permit (or the testing requirement) becomes effective. Condition 7.1.7(e)(v) requires the opacity data collected during the PM emission test to be submitted as part of the test report, so as to be readily available to the Illinois EPA and other interested parties. It is this set of opacity data that the source would use in the method described in the permit to develop the level of opacity that assures compliance with the PM limit. The requirements for the method for developing the level of opacity that assures compliance with the PM limits are found at Condition 7.1.9(c)(ii). This condition states that for each affected boiler, the source must in conjunction with PM emission testing identify the upper bound of the 95% confidence interval (using a normal distribution and 1 minute averages) for opacity measurements from the boilers, considering an hour of operation, within which compliance with the PM limit is assured, with supporting explanation and documentation, including results of historic emission tests. At a minimum, this upper bound number shall be reviewed and revised as necessary following performance of each subsequent PM emission test on the affected boiler. Copies of the documentation showing how this upper bound was developed shall be submitted to the Illinois EPA in accordance with Condition 5.6.2(d). The phrase “within which compliance is assured” means that the data set for opacity that is used in the development of the upper bound is derived from the opacity data generated during a PM stack test that shows compliance with the PM limit.

Once this opacity level has been established, using the statistical test required by the CAAPP permit, as discussed with USEPA staff, the source has then defined what is considered an excursion level for PM. Should the opacity exceed this excursion level, the event is treated as an excursion, for potential noncompliance with respect to the PM limit. In accordance with Condition 7.1.9(c)(iii)(B), the source is required to record each hour when the measured opacity of a coal-fired boiler is above the level which is specified in the records required by Condition 7.1.9(c)(ii). The records for these periods must include the date, time,

operating condition if startup, malfunction, breakdown, or shutdown, further explanation of the incident, and whether PM emissions may have exceeded the limit of Condition 7.1.4(b), with explanation. In accordance with Condition 7.1.10-2(a)(i)(E), copies of these records are then required to be submitted in the quarterly reports for the coal-fired boilers. This condition specifies that a copy of the records required by Condition 7.1.9(c)(iii)(B) shall be submitted with these reports, identifying the date and time that this level, as developed pursuant to Condition 7.1.9(c)(ii), as discussed above, was exceeded, with operating condition if startup, malfunction, breakdown, or shutdown, with further explanation of the incident, and whether PM emissions may have exceeded the applicable limit. Finally, the opacity level set pursuant to Condition 7.1.9(c)(ii) is relevant for purposes of reporting of deviations of the applicable PM emission limit. In particular, as this level defines a point at which the PM limit may be exceeded, the source is also required to use this level for purposes of deviation reporting under Condition 7.1.10-3(a)(i), i.e., opacity above this level is indicative of circumstances in which the PM limit may be exceeded. Considered in its entirety, this approach is both reasonable and appropriate given the body of data available at this time.

#### Issue 4 – Public Notice

**Summary of Objection - The Illinois EPA must provide the public with notice and an opportunity to comment on this permit, clearly stating in its notice that the permitting action includes action on Title I terms if it has established, modified, streamlined or deleted any Title I terms in the permit action, and must include in the project summary or responsiveness summary a discussion of the bases for the establishment of or any changes to Title I permit terms.**

Response – As a general matter, for Illinois' coal-fired power plants, the Illinois EPA has transferred into the CAAPP permits conditions from existing construction permits that limit operation and emissions of new and modified emission units. As explained in the Responsiveness Summary, page 12, these conditions are designated or “marked” as T1 Conditions. Where changes to these conditions have been made as part of the CAAPP permit or these conditions are newly established, these conditions are more specifically marked as either T1R or T1N conditions, respectively.

As part of the further development of the CAAPP permits for Illinois' coal-fired power plants since November 2003, the Illinois EPA has taken further action to facilitate public awareness and review of the Title I conditions in these permits. First, these Title I conditions are generally found in Conditions 7.x.6 of the permits, which contain the operational and production limits and emission limitations for specific emission units. In addition to being marked as T1, T1R and T1N, these conditions are routinely followed by notes that explain the origin of the condition. Providing this explanation in a note, rather than as a condition, serves both to distinguish this explanation from the enforceable limitation and to make the TI condition more readily identifiable. Second as explained in the Responsiveness Summary, page 13, the Illinois EPA has made changes in the format of these permits to more clearly show whether TI Conditions are present. The footnote on the cover page of the permit that stated that a permit might contain Title 1 Conditions has been removed. It has been replaced with a new Condition 1.5 that is present only in permits that actually contain Title I Conditions. This new condition provides a more lengthy explanation of Title I Conditions and how they are marked than the previous footnote. In addition, the permit is identified as a “CAAPP permit,” rather than a “Title V-CAAPP Permit and Title I Permit.” Incidentally, the proposed CAAPP permit for the Waukegan Generating Station does not include new Condition 1.5. This because there are no Title I Conditions in this CAAPP permit.

In summary, the Illinois EPA believes that it has followed an approach to Title I Conditions in the proposed CAAPP permit for the Waukegan Generating Station that is consistent with the explicit requirements of 40 CFR Part 70, Title I of the Clean Air Act, the CAAPP, and the Illinois EPA's administrative procedures for public participation. At the same time, the Illinois EPA will continue to work to improve the extent of information that is provided as part of public comment periods to facilitate the public's ability to review and comment upon draft CAAPP permits. The public notice for a draft permit is certainly a key tool in this regard and could readily be used to provide the public with notice that specific revisions to Title I Condition or new Title I Conditions are actually proposed in a draft CAAPP permit. The Illinois EPA is certainly capable of doing this in the public notices for future draft CAAPP permits. However, this could also be counterproductive as it makes these public notices even more difficult for the general public to understand, as another highly technical element is present in a document that may already be difficult for many to understand. In this regard, Title I Conditions are not a subject on which most members of the general public should be expected to have any familiarity. Accordingly, the Illinois EPA would hope that USEPA will continue to assist the Illinois EPA in its efforts to comprehensively improve the information that is available to the public during comment periods on draft CAAPP permits to encourage and allow for more informed and meaningful participation by the public.

If you have any questions on this matter, please contact Michael Reed, Acting Manager of the CAAPP Unit in the Air Permit Section at 217/782-2113.

Sincerely,

ORIGINAL SIGNED BY DONALD E. SUTTON

Donald E. Sutton, P.E.,  
Permit Section Manager  
Division of Air Pollution Control

Enclosure

cc: Cheryl Newton  
Genevieve Damico