ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF AIR

DIVISION of AIR POLLUTION CONTROL
PERMIT SECTION

Springfield, Illinois

December 30th, 2013

Statement of Basis for the
DRAFT/PROPOSED CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

AmerenEnergy Medina Valley Cogen, LLC
1820 Power Plant Road, Grand Tower, Jackson County, 62942

Illinois EPA ID Number: 077806AAA

Application Number: 95090008

Application Type: Significant Modification

Start of Public Comment Period: January 10, 2014
Close of Public Comment Period: February 9, 2014

Start of USEPA Review Period: January 10, 2014
End of USEPA Review Period: February 24, 2014

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I. INTRODUCTION

This source has applied for a renewal of the Clean Air Act Permit Program (CAAPP) operating permit. The CAAPP is the program established in Illinois for operating permits for significant stationary sources as required by Title V of the federal Clean Air Act and Section 39.5 of Illinois' Environmental Protection Act. The conditions in a CAAPP permit are enforceable by the Illinois Environmental Protection Agency (Illinois EPA), the USEPA, and the public. This document is for informational purposes only and does not shield the Permittee from enforcement actions or its responsibility to comply with applicable regulations. This document shall not constitute a defense to a violation of the Act or any rule or regulation.

A CAAPP permit contains conditions identifying the applicable state and federal air pollution control requirements that apply to a source. The permit also establishes emission limits, appropriate compliance procedures, and specific operational flexibility. The appropriate compliance procedures may include monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit. Further explanations of the specific provisions of the draft CAAPP permit are contained in the attachments to this document, which also identify the various emission units at the source.

II. GENERAL SOURCE DESCRIPTION

a. Nature of Source

Grand Tower Energy Center is located at 1820 Power Plant Road, Grand Tower in Jackson County. The source operates two natural gas fired combustion turbines/heat recovery steam generators with duct burners to generate electrical power.

b. Ambient Air Quality Status for the Area

The source is located in an area that is currently designated attainment or unclassifiable for the National Ambient Air Quality Standards for all criteria pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, $PM_{2.5}$, PM_{10}, sulfur dioxide).

c. Major Source Status

1. The source requires a CAAPP permit as a major source of PM_{10}, NO_x, VOM, CO, and SO_2 emissions.

2. The source also requires a CAAPP permit as an "affected source" for the purposes of Acid Deposition Control, Title IV of the Clean Air Act, pursuant to 40 CFR 70.3(a)(4).

3. The source is not major for Hazardous Air Pollutants (HAPs) as the source has potential HAP emissions less than major source levels, (10 tons or greater of a single HAP, 25 tons or greater for combined HAP).

d. Source Emissions

The following table lists annual emissions of criteria pollutants from this source, as reported in the Annual Emission Reports sent to the Illinois EPA.

	Annual Emissions (tons)		
Pollutant	**2012**	**2011**	**2010**
CO	316.9	65.0	54.0
NO_x	333.1	130.8	53.6
PM	26.7	5.5	4.5
SO_2	3.1	0.6	0.5
VOM	32.1	6.5	5.5
CO_2	621,434.9	127,446.1	96,974.3

III. NEW SOURCE REVIEW/TITLE I CONDITIONS

This draft permit would not establish any new Title I requirements or revised Title I requirements. In addition, this draft permit would not incorporate any newly issued construction permits.

IV. COMPLIANCE INFORMATION

The source has certified compliance with all applicable rules and regulations; therefore, a compliance schedule is not required for this source. In addition, the draft permit requires the source to certify its compliance status on an annual basis.

V. PROPOSED ILLINOIS EPA ACTION/REQUEST FOR COMMENTS

Settlement negotiations have recently produced a final agreement as to the appeal points that presently form the basis for revisions to the CAAPP permit. For this reason, the Illinois EPA is now proceeding with public notice of this draft permit, which reflects those changes to the CAAPP permit from the settlement that are being implemented through the procedures for significant modification.

The permit revisions addressed by this permitting action, as described below, are those deemed to warrant processing as significant modifications under Section 39.5(14)(c) of the Act. These revisions would primarily involve the applicability of certain legal requirements and reasonable changes to requirements for periodic monitoring. As provided by the Act, the CAAPP's procedures for significant modification must be used "for applications requesting significant modifications and for those applications that do not qualify as either minor modifications or as administrative permit amendments". As relevant here, a permit modification that would entail a "significant change in existing monitoring" or a "relaxation of reporting or recordkeeping requirements" is considered "significant". Sections 39.5(14)(c)(i) and (ii) of the Act.

As a planned significant modification to a CAAPP permit, this planned permitting action is subject to requirements for public participation and 45- day review by USEPA in accordance with Sections 39.5(8)(a) and (9) of the Act. This permit is being submitted for concurrent review (Public Notice and USEPA review parallel). The comment period on this

draft/proposed Significant Modification of the CAAPP permit will begin on January 3, 2014. The comment period will close on February 2, 2014, unless a later date is provided for by the Illinois EPA's hearing officer. The USEPA review period begins on January 3, 2014 and will end on February 17, 2014.

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA for the draft/proposed permit, pursuant to 35 IAC Part 252 and Sections 39.5(8) and (9) of the Illinois Environmental Protection Act. A final decision on the draft/proposed permit will not be made until the public, affected states, and USEPA have had an opportunity to comment. The Illinois EPA is not required to accept recommendations that are not based on applicable requirements. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

VI. APPEAL CHANGES

Changed the Permittee's name from Ameren Energy Generating Company to AmerenEnergy Medina Valley Cogen, LLC. The Permittee's name was also changed in Section 1.0 for both the Owner/Parent Company and the Operator.

Moved Section 7.2 to Section 3.4 of the permit because the fire pump is an insignificant activity but all applicable requirements were carried over into Section 3.4. Section 7.2 was also deleted from the Table of Contents to correspond with move of equipment from Significant to Insignificant Activities. This change addresses Appeal point #4 on page 3 of the initial filing.

An addition was made to Condition 3.1.3 to identify the Emergency Diesel generator as an insignificant activity. This change addresses Appeal point #4 on page 3 of the initial filing.

Condition 3.2.5 was added to address the applicability of 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE). This change addresses Appeal point #4 on page 3 of the initial filing.

Sub-section 3.4 was added to this draft permit to identify the specific applicable requirements from 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE). This change addresses Appeal point #4 on page 3 of the initial filing.

Engine #1 (Emergency Diesel generator was deleted from the Significant Emissions Unit Table in Section 4.0 as it is now categorized as an insignificant activity. This change addresses Appeal point #5 on page 3 of the initial filing.

Condition 5.9.2(c) was deleted since the requirement is now obsolete.

Condition 7.1.3(h)(i)(i)(B) was deleted because the sale of all other Ameren facilities where NOx averaging had been approved to new owner(s) will prohibit (makes NOx averaging impossible) Ameren from averaging to demonstrate compliance. As a result of this deletion, the NO_x averaging provision is no longer authorized and thus the phrase, "....as provided for and authorized above" has also been deleted.

Modified Condition 7.1.3(j) to include startup and shutdown authorization for the emission limits from construction permit #99080101. This authorization was inadvertently deleted upon issuance of the appealed Renewal permit. This authorization to exceed the hourly limits was established in Permit 99080101. This change addresses Appeal point #7 on page 4 of the initial filing.

Condition 7.1.4(f) and (g) were added to address the non-applicability of certain NESHAP standards for area sources of HAP emissions.

Condition 7.1.5(a)(iii)(A) was modified by inserting language to clarify the type of inspection and what was meant by emissions related components. This change addresses Appeal point #8 on page 4-5 of the initial filing.

Condition 7.1.5(a)(iv) has been modified to increase the frequency to review manufacturer procedures from every two years to annually. This change addresses Appeal point #9 on page 5 of the initial filing.

7.1.9(l)(i)(B) was modified to remove documentation of whether personnel and which personnel were on site during a startup. The Condition would have created a substantive requirement that 39.5 of the Act does not provide authority to do. This change addresses Appeal point #14 on page 6 of the initial filing.

Condition 7.1.10(a)(ii) no longer includes Condition 7.1.6 because 7.1.6 does not contain any operating limits. Emission limits in 7.1.6 are addressed by Condition 7.1.6(a)(i).

Condition 7.1.10(e) was deleted because it is redundant as Startup reporting is already covered in Condition 7.1.10(b).

Condition 7.1.12(d)(ii) and (iii) have been deleted as these requirements are already found in Condition 7.1.8(d)(ii).

ATTACHMENT 1: Summary of Source-Wide Requirements

The following table indicates the source-wide emissions control programs and planning requirements that are applicable to this source. These programs are addressed in Sections 5 and 6 of the draft permit.

Program/Plan	**Applicable**
Emissions Reduction Market System (ERMS)	No
Clean Air Interstate Rule (CAIR) Program[x]	Yes
Acid Rain Program[x]	Yes
Compliance Assurance Monitoring (CAM) Plan	No
Fugitive Particulate Matter (PM) Operating Program	No
Risk Management Plan (RMP)	No
PM_{10} Contingency Measure Plan	No

1. Under Section 110 of the Clean Air Act (CAA), the USEPA adopted the "Clean Air Interstate Rule or CAIR, 40 CFR Part 96, to reduce and permanently cap emissions of sulfur dioxide (SO_2), and nitrogen oxides (NO_x) from electric power plants that significantly contribute to fine particulate and ozone in the ambient air in the Eastern United States. To implement CAIR in Illinois, the Illinois EPA adopted 35 IAC Part 225 Subparts A, C, D and E.

2. The overall goal of the Acid Rain Program is to achieve significant environmental and public health benefits through reductions in emissions of sulfur dioxide (SO_2) and nitrogen oxides (NO_x), the primary causes of acid rain (Title IV of the federal Clean Air Act). To achieve this goal at the lowest cost to society, the program employs both traditional and innovative, market-based approaches for controlling air pollution. In addition, the program encourages energy efficiency and pollution prevention. If applicable, this program is further described in Section 6.0 of the draft permit, and does not relax other requirements for NO_x and SO_2 emissions.

3. The source is not major for Hazardous Air Pollutants (HAPs) as the source has potential HAP emissions less than major source levels, (10 tons or greater of a single HAP, 25 tons or greater for combined HAP). The source shall keep records to ensure they have not become a major source of HAPs in the previous calendar year. If in the previous calendar year, emissions of HAPs exceeded 80% of the major source threshold for individual or total HAPs (greater than 8 tons of a single HAP or greater than 20 tons of total HAPs), then testing for HAPs shall be conducted according to 40 CFR Part 63, Subpart YYYY, National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines. The source is therefore not subject to 40 CFR Part 63, Subpart YYYY, National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, but would rely on the HAP testing procedures within that rule should minor source verification be required. These conditions reflect the periodic monitoring needed to ensure compliance.

Based on actual emissions of CO2 voluntarily submitted in its AER, this source is a major source of emissions for GHG, because the estimated potential emissions of GHG that are more than 100 tons per year (mass) and 100,000 tons per year (CO2e).

4. This source is not currently subject to any “applicable requirements,” as defined by Section 39.5(1) of the Act, for emissions of greenhouse gases (GHG) as defined by 40 CFR 86.1818-12(a), as referenced by 40 CFR 52.21(b)(49)(i). There are no GHG-related requirements under the Illinois Environmental Protection Act, Illinois’ State Implementation Plan, or the Clean Air Act that apply to this facility, including terms or conditions in a Construction Permit addressing emissions of GHG or BACT for emissions of GHG from a major project at this facility under the PSD rules. In particular, the USEPA’s Mandatory Reporting Rule for GHG emissions, 40 CFR Part 98, does not constitute an “applicable requirement” because it was adopted under the authority of Sections 114(a)(1) and 208 of the Clean Air Act. This permit also does not relieve the Permittee from the legal obligation to comply with the relevant provisions of the Mandatory Reporting Rule for this facility.

ATTACHMENT 2: Summary of Requirements for Specific Emission Units

The following tables include information on the requirements that apply to significant emission units at this source. The requirements are found in Section 7 of the draft permit, which is further divided into subsection, i.e., Section 7.1, 7.2, etc., for the different categories of units at the source. A separate table is provided for each subsection in Section 7 of the draft permit. An explanation of acronyms and abbreviations is contained in Section 2 of the draft permit.

Table 1 (Section 7.1 of the draft permit)

Emission Unit - Turbines	
Description	The turbines are process emission units used to generate electricity.
Date Constructed	2001
Emission Control Equipment	Low NO_x combustors
Periodic Monitoring (other than basic regulatory requirements)	
Testing	Compliance with the opacity limitation in the permit is assured through the use of Reference Method 9 which is an accurate test for opacity and visible emissions. Compliance with the sulfur dioxide limitation in the permit is assured through sampling of the fuel for the sulfur content which is a reliable surrogate parameter for such emissions from these sources. Compliance with NO_x limitations is based on Method 20 and CEMS
Emissions Monitoring	Opacity observations at least every six months or when the turbine is exercised. The observation is not intended to be a USEPA Test Method 9 opacity test, nor does the observation require a USEPA Test Method 9 certified observer. It is intended to be performed by personnel familiar with the operation of the turbine who would be able to make a determination based from the observed opacity as to whether or not the turbine was running properly, and subsequently initiate a corrective action if necessary. Fuel monitoring NO_x CEM
Operational Monitoring	Continuous monitoring system to track fuel usage.
Inspections	Periodic inspections of the turbine
Recordkeeping	Fuel usage, hours of operation, sulfur content, emissions, startup records, etc.

Emission Unit - Turbines	
Justification for Periodic Monitoring	The established periodic monitoring is sufficient based on the fact that the facility does not have a history of non-compliance, and because the likelihood of an exceedance is very low. Continuous monitoring of NO_x is required by the regulations. Sufficient monitoring did not change from the previously issued CAAPP permit.
Reporting	
Prompt Reporting	See Attachment 3

ATTACHMENT 3: Prompt Reporting of Deviations

Prompt reporting of deviations is critical in order to have timely notice of deviations and the opportunity to respond, if necessary. The effectiveness of the permit depends upon, among other important elements, timely and accurate reporting. The Illinois EPA, USEPA and the public rely on timely and accurate reports submitted by the Permittee to measure compliance and to direct investigation and follow-up activities. Prompt reporting is evidence of a Permittee's good faith in disclosing deviations and describing the steps taken to return to compliance and prevent similar incidents.

Any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in this CAAPP permit is a deviation subject to prompt reporting. Additionally, any failure to comply with any permit term or condition is a deviation of that permit term or condition and must be reported to the Illinois EPA as a permit deviation. The deviation may or may not be a violation of an emission limitation or standard. A permit deviation can exist even though other indicators of compliance suggest that no emissions violation or exceedance has occurred. Reporting permit deviations does not necessarily result in enforcement action. The Illinois EPA has the discretion to take enforcement action for permit deviations that may or may not constitute an emission limitation or standard or the like, as necessary and appropriate.

Section 39.5(7)(f)(ii) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(B), requires prompt reporting of deviations from the permit requirements. The permitting authority (in this case, Illinois EPA) has the discretion to define "prompt" in relation to the degree and type of deviation likely to occur. Furthermore, Section 39.5(7)(f)(i) of the Illinois Environmental Protection Act, which mirrors 40 CFR 70.6(a)(3)(iii)(A) requires that monitoring reports must be submitted at least every 6 months. Therefore, USEPA generally considers anything less than 6 months to be "prompt" as long as the selected time frame is justified appropriately (60 Fed. Reg. 36083, 36086 (July 13, 1995)).

The USEPA has stated that, for purposes of administrative efficiency and clarity, it is acceptable to define prompt in each individual permit. *Id.* The Illinois EPA has elected to follow this approach and defines prompt reporting on a permit by permit basis. In instances where the underlying applicable requirement contains "prompt" reporting, this frequency or a shorter frequency of reporting is the required timeframe used in this permit. Where the underlying applicable requirement fails to explicitly set forth the timeframe for reporting deviations, the Illinois EPA has developed a structured manner to determine the reporting approach used in this permit.

The Illinois EPA generally uses a time frame of 30 days to define prompt reporting of most deviations. Also, for certain permit conditions in individual permits, the Illinois EPA may require an alternate timeframe that is less than 30 days if the permit requirement justifies a shorter reporting time period. Under certain circumstances, EPA may establish a deviation reporting period longer than 30 days, but, in no event exceeding 6 months. Where it has established a deviation reporting period other than 30 days in an individual permit (specifically Section 7.x.10), the Illinois EPA has explained the reason for the alternative timeframe. (See Attachment 2 of this Project Summary.)

The timing for certain deviation reporting may be different when a source or emission unit at a source warrants reporting to address operation, independent of the occurrence of any deviations. This is the case for a source that is required to perform continuous monitoring for the emission unit, for which quarterly or semi-annual “monitoring” reports are appropriate. Where appropriate, reporting of deviations has generally been combined in, or coordinated with these quarterly or semi-annual 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 quicker reporting is appropriate. These are deviations for which individual attention or concern may be warranted by the Illinois EPA, USEPA, and other interested parties. Under this scenario, emphasis 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 preceded 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.

In determining the timeframe for prompt reporting, the Illinois EPA assesses a variety of criteria such as:

- historical ability to remain in continued compliance,
- level of public interest in a specific pollutant and/or source,
- seriousness of the deviation and potential to cause harm,
- importance of applicable requirement to achieving environmental goals,
- designation of the area (i.e., non-attainment or attainment),
- consistency among industry type and category,
- frequency of required continuous monitoring reports (i.e., quarterly),
- type of monitoring (inspection, emissions, operational, etc.), and
- air pollution control device type and operation

These prompt reporting 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 which include but are not limited to: 1) Immediate (or very quick) notification; 2) Notification within 30 days as the standard; or 3) Notification with regular quarterly or semi-annual monitoring reports.

The Illinois EPA’s decision to use the above stated prompt reporting approach for deviations as it pertains to establishing a shorter timeframe in certain circumstances reflects the criteria discussed as well as USEPA guidance on the topic.

- 40 CFR 71.6(a)(3)(iii)(B) specifies that certain potentially serious deviations must be reported within 24 or 48 hours, but provides for semi-annual reporting of other deviations. (Serious or severe consequences)

- FR Vol. 60, No. 134, July 13, 1995, pg. 36086 states that prompt should generally be defined as requiring reporting within two to ten days of the deviation, but longer time periods may be acceptable for a source with a low level of excess emissions. (intermediate consequences)
- Policy Statement typically referred to as the “Audit Policy” published by the USEPA defines prompt disclosure to be within 21 days of discovery. (Standard for most “pollutant limiting” related conditions)
- Responses to various States by USEPA regarding other States’ definition of prompt.

As a result, the Illinois EPA’s approach to prompt reporting for deviations as discussed herein is consistent with the requirements of 39.5(7)(f)(ii) of the Act as well as 40 CFR part 70 and the CAA. This reporting arrangement is designed so that the source will appropriately notify the Illinois EPA of those events that might warrant individual attention. 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.