STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

MEMORANDUM

DATE: December 13, 2010

TO: 2005-08-031, AmerenUE - Sioux

FROM: Alana L. Rugen, Environmental Engineer II

SUBJECT: Response to EPA Comments

The draft Part 70 Operating Permit for AmerenUE – Sioux (183-0001) was placed on public notice on May 18, 2010, for a 30-day comment period. The public notice was published in the St. Charles County Business Record on Tuesday, May 18, 2010. An extension of the public notice period was granted, which extended the public notice period to July 18, 2010. On July 16, 2010, the Air Pollution Control Program received thirteen (13) comments from Ameren Corporation; the comments were submitted electronically on the Air Pollution Control Program website. On July 19, 2010, the Air Pollution Control Program received thirteen (13) comments from the Interdisciplinary Environmental Clinic at Washington University School of Law (IEC) on behalf of the Sierra Club; the comments were submitted electronically on the Air Pollution Control Program website.

The Response to Public Comments and revised draft Part 70 Operating Permit for AmerenUE – Sioux (183-0001) were sent to Ameren Corporation and the EPA on October 26, 2010. The EPA was given 45 days to comment. On December 10, 2010, EPA submitted comments addressing each public comment within the Response to Public Comments. On November 11, 2010, Kenneth J. Anderson, Managing Supervisor of Air Quality Environmental Services for Ameren, submitted twenty-six (26) comments via e-mail on the revised draft, these comments will be addressed within this Response to EPA Comments.

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The public comments submitted by Ameren Corporation shall be addressed first. The comments are addressed in the order in which they appear within the letter.

Public Comment No. 1:

Page 1 – "Installation Description": Please revise the description to read as follows. "There are two coal-fired cyclone boilers on site as well as an auxiliary boiler and three emergency diesel generators".

Air Pollution Control Program Response to Public Comment:

The sentence which previously read: "There are two coal fired cyclone boilers on site" was revised as requested.

Public Comment No. 2:

Page 5 – "Installation Description": Please revise the description to read as follows. "There are two coal-fired cyclone boilers on site as well as an auxiliary boiler and three emergency diesel generators".

Air Pollution Control Program Response to Public Comment:

The sentence which previously read: "There are two coal fired cyclone boilers on site" was revised as requested.

Public Comment No. 3:

Page 5 – Please make the following revisions to the table of "Reported Air Pollutant Emissions".
1) PM_{10} emissions for year 2008 should be **58.79 tons** instead of 109.60 tons. In this case, an erroneous emission factor was previously used in the calculation.
2) Lead emissions for year 2005 should be **0.47 tons** instead of 10.35 tons. In this case, an erroneous control efficiency was previously used in the calculations.
Revised emission values will be submitted to the MDNR along with the respective calculation methodologies.

Air Pollution Control Program Response to Public Comment:

I have spoken with our EIQ unit regarding your requests. I have made these changes as requested based upon the EIQ unit's response:

"The first issue of PM_{10} emissions in 2008, is really a non-issue. The facility did report 109.60 tons PM_{10} on their original internet submittal. While working with Ameren to include the condensable PM emissions in the 2008 EIQ report, the amount of PM_{10} filterable was actually re-calculated to be 58.79 tons (which is what they state in their comment). The amount in MoEIS now shows 347.78 tons of PM_{10} emissions for 2008, because it is both filterable (58.79 tons) and condensable (288.99 tons). PM con now has a field in MoEIS and does not need to be

combined with PM_{10} filterable as it was in 2008. The PM con field was created for the 2009 EIQ and will be utilized in the future.

The second issue of the 2005 Lead emissions was traced back to the internet submittal from the facility. The facility did not put a control efficiency for lead on Boiler 1. Every other reporting year since at least 2000 stated a control efficiency of 98% for their lead emissions on boiler 1 (and 2). Since this issue is over three years old a refund of fees would not be possible. However, the emissions can be revised so they would be accurate."

Public Comment No. 4:

Page 5 – "Emission Units With Limitations": Please remove emission units IC-3 and IC-4 from this list and place these units under "Emission Units Without Limitations". Emission units IC-3 and IC-4 are portable diesel powered light sets and this fact has been documented in photographs supplied to the MDNR.

Air Pollution Control Program Response to Public Comment:

I have made these changes as requested. The photographs, which were supplied to me via e-mail on May 27, 2010, do indeed verify that these diesel powered light sets are portable. It should be noted that these units are without limitation per permitting policy and not per a regulatory exemption.

EPA Comment:

While a photograph shows that the equipment is designed to be portable, it does not verify how, how often, or where the equipment is being used. According to 40 CFR Part 60 and 63, internal combustion engines may be exempt from stationary source requirements if they meet the definition of a "Nonroad engine" that is mobile under Part 40 CFR Part 1068.

40 C.F.R. §1068.30 states:

> *Nonroad engine* means:
> (1) Except as discussed in paragraph (2) of this definition, a nonroad engine is an internal combustion engine that meets any of the following criteria:
> (i) It is (or will be) used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers).
> (ii) It is (or will be) used in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers).
> (iii) By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.
> (2) An internal combustion engine is not a nonroad engine if it meets any of the following criteria:

(i) The engine is used to propel a motor vehicle, an aircraft, or equipment used solely for competition.
(ii) The engine is regulated under 40 CFR part 60, (or otherwise regulated by a federal New Source Performance Standard promulgated under section III of the Clean Air Act (42 U.S.C. 7411)).
(iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. See § 1068.31 for provisions that apply if the engine is removed from the location.

The commenter and MDNR have agreed that the internal combustion engines at the source are portable, but that determination does not fully answer whether the engines are non-stationary and exempt from 40 CFR Part 60 and 63 requirements. The commenter and MDNR should establish that the engines do not remain at any single location or installment for more than 12 consecutive months at a time.

If the commenter and MDNR cannot establish that the internal combustion engines are nonroad mobile, then EPA disagrees with change and asks that MDNR move the emission units IC-3 and ICA in the category of "EMISSION UNITS WITH LIMITATIONS" beginning on page 5 of the draft permit.

If the commenter and MDNR can establish that the internal combustion engines are nonroad mobile, then IC-3 and ICA still have to meet the requirements under 40 C.F.R. Part 1068. EPA disagrees with putting the emission units IC-3 and ICA in the category of "EMISSION UNITS WITHOUT LIMITATIONS" beginning of page 6 of the draft permit. Instead, MDNR should either put IC-3 and IC-4 in the category of "EMISSION UNITS WITH LIMITATIONS" beginning on page 5 of the draft permit due to requirements under 40 C.F.R. Part 1068, or take IC-3 and IC-4 out of the permit since the engines are not stationary emission sources and are not required to be in the source's Part 70 operating permit.

Air Pollution Control Program Response to EPA Comment:

The photograph verifies that the diesel powered light sets IC-3 and IC-4 meet the criteria of §1068.30(1)(iii). The photograph also verifies that IC-3 and IC-4 do not propel a motor vehicle, an aircraft, or are used solely for competition as specified by §1068.30(2)(i). Whether IC-3 and IC-4 meet the criteria within §1068.30(2)(ii) and §1068.30(2)(iii) shall be addressed below:

§1068.30(2)(ii): The engine is regulated under 40 CFR part 60, (or otherwise regulated by a federal New Source Performance Standard promulgated under section III of the Clean Air Act (42 U.S.C. 7411)).

The diesel powered light sets are not subject to regulation under 40 CFR Part 60. IC-3 and IC-4 were constructed prior to July 11, 2005 and have not been modified or reconstructed since; thus, IC-3 and IC-4 do no meet the applicability requirements under §60.4200(a).

§1068.30(2)(iii): The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. See § 1068.31 for provisions that apply if the engine is removed from the location.

Ameren Corporation has stated: "The portable lights provide supplemental lighting for operational and maintenance activities at various locations within the facility when the existing lighting is insufficient for the specific activity. The portable light sets are not stored or used at any single, specific site within the facility."

IC-3 and IC-4 have been removed from the permit per EPA's request as they meet the definition of "nonroad engine" and are not stationary sources.

Public Comment No. 5:

Emission units IC-1, IC-2, IC-5 and IC-6 will be evaluated for applicability under the NSPS at 40 CFR 60, Subpart IIII and under the NESHAPS at 40 CFR 63, Subpart ZZZZ (RICE MACT). Ameren will provide the MDNR with manufacturer's data for the diesel engines used in conjunction with the emergency fire pumps and the WFGD system emergency quench pumps.

Air Pollution Control Program Response to Public Comment:

On July 30, 2010, AmerenUE submitted the manufacturer's data for the Emergency Fire Pumps IC-1, IC-2, IC-5, and IC-6. As emergency stationary compression ignition internal combustion engines constructed after July 11, 2005, these engines are subject to 40 CFR Part 60, Subpart IIII. Emissions standards, compliance methods, recordkeeping, and reporting requirements to demonstrate compliance with 40 CFR Part 60, Subpart IIII have been incorporated into the permit.

The engines are also subject to 40 CFR Part 63, Subpart ZZZZ; however, as emergency stationary RICE with a site rating of less than or equal to 500 brake HP the engines must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII per §63.6590(c). An explanation was included in the Statement of Basis, but as there are no further emissions standards, monitoring/testing, recordkeeping, or reporting requirements for these engines under this subpart.

Public Comment No. 6:

Page 8 – Emission units B-1 and B-2: Under "Description", please change "Installed 05/01/1967" to "Initial Operation May 1967" for B-1 and change "Installed 05/01/1968" to "Initial Operation May 1968" for B-2.

Air Pollution Control Program Response to Public Comment:

These changes have been made as requested.

Public Comment No. 7:

Page 13 – "Recordkeeping" and "Reporting" for Permit Condition (B-1 and B-2) – 003: Conditions 1. and 2. under "Recordkeeping" should be moved to "Reporting". In addition, Condition 1. under "Reporting" should be moved to "Recordkeeping".

Air Pollution Control Program Response to Public Comment:

These changes have been made as requested.

Public Comment No. 8:

Page 14 – "Permit Condition (B-1 and B-2) – 006": Please move Condition 4. under "Monitoring/Recordkeeping" to "Operational Limitations". This will make it immediately clear what materials can be burned in Boilers 1 and 2 as "municipal waste".

Air Pollution Control Program Response to Public Comment:

This change has been made as requested.

Public Comment No. 9:

Page 18 – "Permit Condition (HR-1) – 002": Under "Monitoring", Condition 2(d) should be revised such that "the schedule listed in c)(i)-(iii)" should read as "the schedule listed in a) through c)" and "observations as prescribed in c)(iii)" should be changed to read "observations as prescribed in c)".

Air Pollution Control Program Response to Public Comment:

These changes have been made as requested.

Public Comment No. 10:

Page 21 – "Permit Condition (B-3) – 002": In Condition 6. under "Standards", please revise "MMBtu/hr" to "mmBtu/hr".

Air Pollution Control Program Response to Public Comment:

This change has been made as requested.

Public Comment No. 11:

Page 25 – "Permit Condition (IC-1 through IC-6) – 001": Please remove emission units IC-3 and IC-4 from this condition and from the "Description" list. Emission units IC-3 and IC-4 are portable diesel powered light sets and this fact has been documented in photographs supplied to the MDNR.

Air Pollution Control Program Response to Public Comment:

I have made these changes as requested. The photographs, which were supplied to me via e-mail on May 27, 2010, do indeed verify that these diesel powered light sets are portable. It should be noted that these units are without limitation per permitting policy and not per a regulatory exemption.

EPA Comment:

Before removing emission units IC-3 and IC-4 from the "Description" list, consider EPA's Comment to Public Comment No. 4.

Air Pollution Control Program Response to EPA Comment:

IC-3 and IC-4 have been removed from the permit per EPA's request as they meet the definition of "nonroad engine" and are not stationary sources.

Public Comment No. 12:

Emission units IC-1, IC-2, IC-5 and IC-6 will be evaluated for applicability under the NSPS at 40 CFR 60, Subpart IIII and under the NESHAPS at 40 CFR 63, Subpart ZZZZ (RICE MACT). Ameren will provide the MDNR with manufacturer's data for the diesel engines used in conjunction with the emergency fire pumps and the WFGD system emergency quench pumps.

Air Pollution Control Program Response to Public Comment:

On July 30, 2010, AmerenUE submitted the manufacturer's data for the Emergency Fire Pumps IC-1, IC-2, IC-5, and IC-6. As emergency stationary compression ignition internal combustion engines constructed after July 11, 2005, these engines are subject to 40 CFR Part 60, Subpart IIII. Emissions standards, monitoring/testing, recordkeeping, and reporting requirements to demonstrate compliance with 40 CFR Part 60, Subpart IIII have been incorporated into the permit.

The engines are also subject to 40 CFR Part 63, Subpart ZZZZ; however, as emergency stationary RICE with a site rating of less than or equal to 500 brake HP the engines must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII per §63.6590(c). An explanation was included in the Statement of Basis, but as there are no further emissions standards, monitoring/testing, recordkeeping, or reporting requirements for these engines under this subpart.

Public Comment No. 13:

Pages 28 and 29 – "Permit Condition (MH-1 through MH-4) – 001, Barge Unloading": Condition 2. under "Operational Limitation" should be deleted since this condition is not contained in Construction Permit No. 012001-024.

Air Pollution Control Program Response to Public Comment:

I have removed the operational limitation in question as well the reporting requirements for this permit condition and added an explanation within the Statement of Basis.

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The public comments submitted by the Interdisciplinary Environmental Clinic at Washington University School of Law (IEC) on behalf of the Sierra Club shall now be addressed. The comments are addressed in the order in which they appear within the letter.

Public Comment No. 1:

The Draft Permit Lacks a Compliance Schedule for Remedying Significant, Ongoing Violations of the Clean Air Act.

A Part 70 permit must include a compliance schedule "for requirements for which the source is not in compliance at the time of permit issuance." 40 CFR §§ 70.6(c)(3) and 70.5(c)(8)(iii)(C). See also 10 CSR 10-6.065(6)(B)3.I.(III)(c).

In January 2010, the U.S. Environmental Protection Agency (EPA) issued a Notice of Violation (NOV) to AmerenUE alleging serious Clean Air Act violations at the Sioux plant (and at AmerenUE's three other coal-fired power plants in Missouri). The NOV asserted that

AmerenUE undertook the following major modifications at the Sioux plant without first obtaining required construction permits and without employing required pollution controls to reduce emissions associated with the modifications:

- Replaced economizer at Unit 1 in 2001
- Replaced economizer at Unit 2 in 2000
- Modified secondary superheater at Unit 2 in 2003
- Modified secondary superheater at Unit 2 in 2004.

AmerenUE neither noted these violations in its Part 70 permit application nor submitted an updated application to note the noncompliance. In addition, the draft permit does not contain a compliance schedule to redress the outstanding violations.

A. AmerenUE Failed to Obtain the Necessary Preconstruction Permits, Failed to Install Required Pollution Control Technology, and Continues to Operate Without Required Technology-Based Emissions Limitations.

EPA determined that each of the above-listed projects constituted major modifications and that each of the major modifications resulted in a significant increase of the Sioux plant's emissions of SO_2, NO_x, PM, ozone, and/or $PM_{2.5}$. Under both federal and Missouri law, the major modifications at the Sioux plant should not have been undertaken without AmerenUE first obtaining Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) pre-construction permits, and becoming subject to emission limits based on the use of Best Achievable Control Technology (BACT) to limit PSD emissions and Lowest Achievable Emissions Rate (LAER) to limit NNSR emissions. 42 U.S.C. §§ 7470-7515; 10 CSR 10-6.060. EPA found that AmerenUE failed to apply for or obtain pre-construction permits and failed to install, and continues to operate without, required pollution control technology to reduce emissions associated with the abovementioned major modifications.

> AmerenUE violated and continues to violate Sections 165(a) and 173 of the Act, 42 U.S.C. §§ 7475(a) and 7503, and 10 CSR 10-6.060 by commencing construction of, and continuing to operate, a major modification at the . . . Sioux Plant without applying for and obtaining a PSD/NNSR permit. AmerenUE did not install BACT or LAER for the control of SO_2, NO_x, PM, ozone and/or $PM_{2.5}$ prior to commencing construction of such activities, and continues to operate those plants without BACT or LAER.

These violations are ongoing and must be addressed in the Part 70 permit.

B. AmerenUE Failed to Submit a Complete Title V Permit Application.

EPA also found that AmerenUE did not include the major modifications or the applicable pollution control-based emission limitations in the permit application as required by 42 U.S.C. §§ 7661a, 7661b and 7661c; 40 C.F.R. §§ 70.1 (b), 70.5, 70.6, and 70.7(b) and 10 CSR 10-6.065:

> AmerenUE has failed to submit an accurate and complete Title V permit application for the. . . Sioux Plant with information pertaining to the modifications . . . and with

information concerning all applicable requirements, including, but not limited to, the requirement to apply, install, and operate BACT or LAER for the control of SO_2, NO_x, PM, ozone and/or $PM_{2.5}$ at the plant.

Thus, EPA has already determined that the permit application that supports this draft permit is incomplete and violates both the Clean Air Act and Missouri law.

C. The Permit Must Include a Compliance Schedule

As noted above, federal and state law require a Title V/Part 70 permit to include a compliance schedule to address any ongoing Clean Air Act violations at the permitted source. A state-issued NOV and complaint based thereon are sufficient evidence of noncompliance, without a court ruling or defendant's admission of liability. *New York Public Interest Research Group, Inc., v. Johnson*, 427 F.3d 172 (2d Cir. 2005). Although in *NYPIRG v. Johnson*, EPA unsuccessfully resisted the claim that the state's enforcement proceeding was insufficient to trigger a Part 70 compliance schedule, in this case the EPA itself has found the alleged Clean Air Act violations and commenced its own enforcement proceeding with the issuance of a detailed NOV.

While EPA has found the Sioux plant to be in violation of the Clean Air Act and Missouri law, the draft permit fails to include the requisite compliance schedule detailing when the plant will come into compliance with the violations alleged in the NOV. The permit must include a compliance schedule requiring AmerenUE to apply for NNSR and PSD permits, comply with LAER and BACT, and provide offsets for nonattainment pollutants and their precursors.

Air Pollution Control Program Response to Public Comment:

EPA and AmerenUE are still in the early stages of resolution with respect to the January 2010 NOV.

In the October 16, 2009 EPA Order regarding a permit issued by the Indiana Department of Environmental Management to BP Products North America, Inc Whiting Business Unit (available at: http://www.epa.gov/region07/air/title5/petitiondb/petitions/bpwhiting_response2008.pdf), Lisa P. Jackson, EPA Administrator, states: "An NOV is simply one early step in the EPA's process of determining whether a violation has, in fact, occurred. This step commonly is followed by additional investigation or discovery, information gathering, and exchange of views that occur in the context of an enforcement proceeding and that are considered important means of fact-finding under our system of civil litigation. An NOV is not a final agency action and is not subject to judicial review. It is well-recognized that no binding legal consequences flow from an NOV, and an NOV does not have the force or effect of law."

Therefore, based on the above EPA guidance, until a compliance plan and schedule are finalized there are no provisions to be incorporated into the operating permit, thus, the draft contains all applicable requirements which are currently effective at the time of permit issuance per the requirements of §70.6(a)(1). If AmerenUE and EPA resolve the January 2010 NOV with a compliance plan and schedule, the operating permit shall be reopened for cause per the

provisions of 10 CSR 10-6.065(6)(E)6.A.(III) to include the EPA-approved compliance plan and schedule."

EPA Comment:

EPA has consistently determined that a compliance schedule is not required when an NOV has been issued to a source. See, also

http://www.epa.gov/region07/air/title5/petitiondb/petitions/valero_decision2004.pdf
http://www.epa.gov/region07/air/title5/petitiondb/petitions/georgiapowerrenewals_decision2005_2006.pdf

In an October 16, 2009 EPA Order regarding the permit issued by the Indiana Department of Environmental Management for BP Products North America, Inc Whiting Business Unit (available at: http://www.epa.gov/region07/air/title5/petitiondb/petitions/bpwhiting_response2008.pdf), EPA stated,

> "EPA may consider an NOV's issuance or complaint's filing as a relevant factor when determining whether the overall information presented by the petitioner - in light of all the factors that may be relevant - demonstrates the applicability of a requirement for title V purposes. Other factors that may be relevant in this determination include the quality of the information, whether the underlying facts are disputable, the types of defenses available to the source, and the nature of any disputed legal questions, all of which would need to be considered within the constraints of the title V process. If, in any particular case, these factors are relevant and the petitioner does not present information concerning them, then EPA may find that the petitioner has failed to present sufficient information to demonstrate that the requirement is applicable."

EPA also considers the potential impact enforcement cases and title V decisions have on one another. In cases where EPA has initiated an enforcement action at the same time as the permitting authority is taking action on a title V permit application, the source and EPA could find themselves in two separate actions, litigating essentially the same issues -- whether a substantive rule was violated and the appropriateness of a compliance schedule -- with the risk of potentially different and conflicting results. Such proceedings are best left out of the Title V permitting process. Once limits are established in a construction permit, consent decree, or court order, the requirements would then be included in a Title V permit.

In the BP Whiting Petition the EPA Administrator determined that the Petitioners did not demonstrate that the title V operating permit did not comply with the Act. The Administrator stated, "Petitioners have failed to demonstrate that the BP Whiting facility is out of compliance with the requirements addressed in the NOV, and that the permit must include a compliance plan and schedule with regard to such requirements. I therefore deny the petition with respect to this issue."

Even if the commenter had demonstrated the Sioux plant was out of compliance with their current Title V permit, a compliance schedule would be best left out of the title V process until Ameren had entered into a consent decree or been issued a court order including compliance requirements with the Act.

Public Comment No. 2:

The Draft Permit Lacks a Compliance Schedule for Newly-Applicable Requirements That Will Become Effective During the Permit Term.

Several significant air pollution requirements applicable to the Sioux plant will be finalized in the near future. Federal and state regulations require that Title V/Part 70 permits include compliance schedules to ensure that "the source will meet such requirements on a timely basis." 40 CFR §§ 70.6(c)(3) and 70.5(c)(8)(iii)(B). See also 10 CSR 10-6.065(6)(C)3.C. However, the draft Part 70 permit lacks a compliance schedule to ensure that the Sioux plant will meet its obligations under to-be-finalized applicable requirements on a timely basis.

Although the draft permit (at p. 46) includes the state's reopener regulation, 10 CSR 10-6.065(6)(E)6, that regulation is insufficient to ensure timely compliance with newly-applicable requirements. It states: "This permit may be reopened for cause if additional applicable requirements under the Act become applicable to the installation." (emphasis supplied). The word "may" in this regulation merely suggests the possibility that the permit might (or might not) be reopened to include new requirements; it does not require DNR to do so. Furthermore, the regulation does not indicate a time schedule for incorporating new requirements into the permit and therefore does not ensure that the Sioux plant will meet newly-applicable regulations "on a timely basis."

The draft permit's failure to ensure that the Sioux plant will timely comply with newly applicable requirements is of considerable import. Several significant rules limiting harmful emissions from coal-fired power plants, including Sioux, are on the horizon. After years of delay, the EPA is under court order to promulgate Maximum Achievable Control Technology emission standards under Section 112 of the Clean Air Act for hazardous air pollutant emissions from electric utilities (EGUs) by November 16, 2011. These standards will affect emissions from the Sioux plant and will likely impose additional emission limitations and require additional pollution control technologies than are reflected in the draft permit. In addition, EPA recently proposed interstate transport regulations that could result in lower emission limits for the Sioux plant's nitrogen oxide and/or sulfur dioxide emissions.

The draft permit should be revised to state that the Sioux plant will comply with the EGU MACT requirements by the compliance date set forth in the final rule, with the interstate transport requirements by the compliance date required by the final rule, and with all other applicable requirements as and when they become effective. The permit should also make clear that the Sioux plant's obligations under these newly-applicable requirements will be incorporated by reference into the Title V/Part 70 permit, regardless of whether DNR formally reopens the permit to do so.

Air Pollution Control Program Response to Public Comment:

The draft contains all applicable requirements which are currently promulgated at the time of permit issuance per the requirements of §70.6(a)(1). Compliance with the conditions of the operating permit does not demonstrate compliance with any applicable requirements that become effective after the date of the permit issuance as 10 CSR 10-6.065(6)(C)6.A states: "Compliance with the conditions of the permit shall be deemed compliance with all applicable requirements as of the date of the permit issuance." Compliance with applicable newly effective regulations shall be demonstrated through the initial and continuous compliance demonstration methods detailed within the newly effective regulation until the permit is renewed, reopened, or revised per the provisions of 10 CSR 10-6.065(6)(E). Permit renewal, reopening, or revision shall be completed no later than 18 months after promulgation of the newly applicable requirement unless the effective date of the newly applicable requirement is later than the date on which the permit is due to expire per the requirements of §70.7(f)(1)(i).

EPA Comment:

Section 505(b)(2) of the Act, 42 U.S.C. § 7661d(b)(2), states EPA cannot object to a permit unless the commenter can show that the draft permit is not in compliance with applicable requirements under the Act. The definition of "applicable requirements," in 40 C.F.R.§70.2, does not include future regulations under the Act.

In a January 8, 2007, EPA Order regarding the permit issued by the Georgia Environmental Protection
Division for Bowen Steam-Electric Generating Plant (available at:
http://www.epa.gov/region07/air/title5/petitiondb/petitions/georgiapowerrenewals_decision2005_2006.pdf). EPA stated, "Petitioner has asked EPA to object to these permits and require a compliance schedule to ensure future compliance with opacity standards. Section 505(b)(2) of the Act states that the Administrator shall issue an objection if the petitioner demonstrates to the Administrator that the permit is not in compliance with applicable requirements of the Act. EPA will not object to a permit where, as here, the Petitioner has provided no specific evidence to demonstrate that the permit is not in compliance with the Act."

EPA has made similar determinations in other orders. *See, e.g.*

http://www.epa.gov/region07/air/title5/petitiondb/petitions/marcal_new_jersey_decision2006.pdf

Public Comment No. 3:

The Draft Permit Lacks Periodic Monitoring and Includes Inadequate Compliance Assurance Monitoring Requirements Regarding the Plant's PM Emissions.

Boilers 1 and 2 of the plant are subject to Permit Condition (B-1 and B-2) - 003, a SIP-based particulate matter (PM) emission limit of 0.12 lb/mmBtu of heat input for each boiler. This limit is set forth in 10 CSR 10-5.030(2)(B)3. Two separate monitoring requirements apply to this emission limit: Compliance Assurance Monitoring (CAM) required by 40 CFR Part 64 and

periodic monitoring required by 40 CFR §§70.6(a)(3)(i)(A), 70.6(a)(3)(i)(B), and §70.6(c)(1). The draft permit contains no periodic monitoring to ensure that the Sioux plant is complying with this PM limit. The draft permit's CAM plan, in Permit Condition (B-1 and B-2) – 003, does not meet CAM requirements and by no means satisfies periodic monitoring requirements.

A. The CAM Plan is Inadequate.

When EPA published the CAM rule, 40 CFR Part 64, it explained: "The general purpose of the monitoring required by part 64 is to assure compliance with emission standards through requiring monitoring of the operation and maintenance of the control equipment and, if applicable, operating conditions of the pollutant-specific emissions unit." 62 Fed. Reg. 54900, 54918 (Oct. 22, 1997). The Sioux plant employs Electrostatic Precipitators (ESPs) to reduce its PM emissions. The CAM plan in the draft permit (Permit Condition (B-1 and B-2) – 003) is not sufficient to assure proper operation of the ESPs and compliance with the PM emission limit because the excursion level does not provide a significant margin of compliance and the plan fails to account for condensible PM emissions from the boilers.

i. The CAM Plan's Excursion Level Does Not Provide a Significant Margin of Compliance.

Because the CAM plan relies on opacity as an indicator for the plant's compliance with its PM emission limit, a correlation between PM and opacity for each of the boilers is required. DNR highlighted several potential issues with Ameren's PM/opacity correlation. For example, in a July 19, 2006 letter to the company, DNR explained, "Opacity does not correlate with PM emissions exactly, especially as PM mass loading increases to higher levels." This issue has also been discussed in EPA guidance:

> Several ESP parameters can be used as indicators of ESP performance; however, the relationship between these parameters and actual PM emissions is subject to considerable variability. For example, opacity, a commonly used parameter, can indicate ESP performance. If the opacity is increasing, one may reasonably assume that PM emissions are increasing. What generally is not known on a quantitative basis is the magnitude of the mass emissions relative to any one opacity value or the increase in mass emissions relative to the increase in opacity. In addition, and perhaps most importantly, the relationship between opacity and mass emissions can vary significantly with the particle size distribution and refractive index of the ash particles. The properties of the particulate matter can be influenced by fuel changes and the number and location of ESP electrical sections in service.

In addition DNR has noted, "The PM and opacity correlation [contained in AmerenUE's CAM plans] is based on a very limited data set, conducted under controlled, simulated test conditions, at only one point in time." Compounding this problem, the controlled conditions under which testing occurred are unlikely to reflect actual events:

> Ameren simulated high PM loading to the ESPs during the stack testing by either reducing or eliminating power to certain sections of the ESPs. This was done in a very

> careful, controlled manner in an attempt to allow the system to reach a steady-state condition for the purpose of the correlation testing. An actual control device failure or performance reduction will likely not occur in this manner.

AmerenUE has chosen to use opacity as the sole indicator to provide a reasonable assurance of compliance with the PM emission limit. Given the concerns with calculating an accurate PM/opacity correlation and the ability of simulations to adequately estimate PM emissions during periods of decreased ESP performance, it is critical that the permit contain an excursion level with a significant margin of compliance. EPA Region 7 has commented on the issue of margin of compliance:

> We favor a more comprehensive approach, such as one that relies on a combination of opacity and secondary power values (*e.g.*, secondary voltage and current). However, we recognize that opacity as measured with a COMS can be an effective monitoring tool for ESPs to satisfy part 64 requirements ***with proper justification*** *(e.g.,* justification for selection of opacity trigger/excursion percentage, averaging time). To justify the use of COMS alone, the margin of compliance should be significant. For example, a PM emissions to opacity level correlating to a 70 percent margin of compliance would be acceptable.

Based on AmerenUE's PM/opacity correlations, an opacity level of 24% corresponds to PM emissions of 0.087 lb/mmBtu for boiler 1 and 0.108 lb/mmBtu for boiler 2. This results in a 27.5% margin of compliance for boiler 1 and a 10% margin of compliance for boiler 2. The margin of compliance associated with the excursion level in the draft permit falls far short of the 70% margin of compliance referenced by EPA. DNR should revise the excursion level to include a significant margin of compliance, such as the 70% margin of compliance suggested by EPA.

ii. The CAM Plan Does Not Address Condensible PM.

The draft permit fails to specify that the PM emission limit for boilers 1 and 2 includes both the filterable and condensible components of PM. Although the SIP regulation providing the PM emission limit, 10 CSR 10-5.030, refers to particulate matter without distinguishing between filterable and condensible components, the applicable definition of particulate matter in 10 CSR 10-6.030 makes it clear that the limit includes both filterable and condensible PM:

> 4. Particulate matter— Any material, except uncombined water, that exists in a finely divided form as a liquid or solid and as specifically defined as follows:
>
> A. PM—any airborne, finely divided solid or liquid material with an aerodynamic diameter smaller than one hundred (100) micrometers as measured in the ambient air as specified in 10 CSR 10-6.040(4)(B); and
>
> B. PM_{10}—particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers as measured in the ambient air as specified in 10 CSR 10-6.040(4)(J); and

> C. $PM_{2.5}$—particulate matter with an aerodynamic diameter less than or equal to a nominal two and one-half (2.5) micrometers *including the filterable component* as measured in the ambient air as specified in 10 CSR 10-6.040(4)(L).

10 CSR 10-6.030 (emphasis added)

The definition of $PM_{2.5}$ refers to particulate matter "including the filterable component." This language indicates that the filterable component is not the only component of $PM_{2.5}$. Presumably, the condensible component is implicitly included in this definition. Because the definition of $PM_{2.5}$ includes the condensible component, it follows that the broader definition of particulate matter would include the condensible component as well. As a result, the emission limit for particulate matter in 10 CSR 10-5.030 applies to total PM (filterable and condensible).

AmerenUE relied on stack test data using EPA Method 17 to calculate the PM/opacity correlation in its CAM plan. However, Method 17 measures only the filterable component of PM, not the condensible component. Thus, the correlation in the CAM plan represents the correlation between filterable PM and opacity rather than total PM and opacity. This correlation is inappropriate for assuring compliance with an emission limit for total PM. The CAM plan should be revised to address condensible as well as filterable PM emissions from boilers 1 and 2.

B. The Draft Permit Fails to Include Periodic Monitoring Sufficient to Assure Compliance.

Periodic monitoring acts as a cornerstone of the Title V permitting scheme. Without adequate monitoring to determine a facility's emissions, an emission limit is of little value. The purpose of periodic monitoring is to provide assurance that the facility is operating in compliance with applicable emission limitations. Information obtained through periodic monitoring regarding the facility's actual emissions is useful not only to the source, but also to regulators and the public:

> [I]mportantly, [the emission source] can manage the information provided from [its] title V monitoring to identify and respond to unusual periods of process or control device operation, taking necessary corrective action in a timely manner before there is a compliance issue. Data from title V monitoring also are important to permitting authorities and citizens for the purpose of assessing your emissions units' compliance with the applicable requirements.

The Clean Air Act requires periodic monitoring sufficient to assure compliance with application emission limits in Part 70 permits. As described by the D.C. Circuit Court of Appeals, *Sierra Club v. EPA*, 538 F.3d 673 (D.C. Cir. 2008), periodic monitoring arises in three contexts:

> 1. Where existing regulations or underlying permits prescribe monitoring that is appropriate to the timeframe of the emission limit and sufficient to assure compliance, the permitting authority places that monitoring requirement in the permit.
>
> 2. Where there is no previously-established monitoring requirement to correspond to an emission limit, the permitting authority must create one that is appropriate to the

timeframe of the emission limit (periodic) and sufficient to assure compliance with the limit.

3. Where there exists a previously-established monitoring requirement corresponding to an emission limit, but it is not adequate to assure compliance with the limit, the permitting authority (or EPA) must augment the monitoring in the Title V permit to ensure that it is both periodic and assures compliance with the emission limit.

In the past, there was some confusion as to whether permitting authorities could, must, or could not supplement inadequate monitoring provisions to make them sufficient to ensure compliance. That confusion is now behind us. In the D.C. Circuit decision cited above, the court made clear that the Clean Air Act expressly *requires* augmentation where monitoring requirements exist but are not adequate to ensure compliance.

> Title V requires that '[e]very one' of the permits issued by permitting authorities include adequate monitoring requirements. . . . Under the '[e]ach permit' mandate, state and local authorities must be allowed to cure these monitoring requirements before including them in permits. . . . *We read Title V to mean that somebody must fix these inadequate monitoring requirements.*

As discussed in detail below, the draft permit lacks periodic monitoring sufficient to assure compliance with the PM emissions limit for boilers 1 and 2. DNR must revise the draft permit in order to satisfy the legal requirements set forth above.

i. The Draft Permit Provides No Mention of Periodic Monitoring.

Neither the draft permit nor the Statement of Basis explains how the permit fulfills the Clean Air Act's periodic monitoring requirements. Although the draft permit contains a CAM plan in the permit condition setting forth the plant's PM emission limit, the permit contains no requirements for AmerenUE actually to measure its PM emissions.

ii. The CAM Plan Does Not Constitute Adequate Periodic Monitoring.

Although the draft permit and Statement of Basis are silent on the subject, it is possible that DNR intends for the CAM requirements to double as periodic monitoring requirements for the PM emission limit. However, the CAM provisions do not require periodic monitoring sufficient to ensure compliance with the PM limits. As described in detail above, the CAM plan lacks an excursion level with a significant margin of compliance and fails to include condensible PM emissions. This is compounded by the uncertainty regarding the PM/opacity correlation, particularly during periods of deteriorating ESP performance. As a result, it is possible that emissions exceeding the PM limit could occur before the excursion level is reached and before corrective action is triggered.

Furthermore, the CAM plan does not clearly specify the conditions under which an exceedance of the PM emission limit would occur. The draft permit states, "Based on stack test data submitted by the Permittee, a PM exceedance has *likely* occurred if the 3-hour average stack

opacity exceeds 29% for boiler #1 and 26% for boiler #2." Given this language, a 3-hour average opacity above 29% for boiler 1 or 26% for boiler 2 does not automatically constitute an exceedance, despite the fact that the opacity levels correlate with PM emissions above the limit. The presence of the word "likely" makes the language unenforceable as a practical matter. EPA highlighted the difficulties of trying to use CAM to fulfill the periodic monitoring function of assuring compliance with emission limits:

> Although it is correct that the Agency, as well as states, public citizens, and sources, could potentially use CAM monitoring data as credible evidence of either compliance or noncompliance with an emission standard, the evidence could only be used if, as stated in the CE revisions, the information is relevant to whether the source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed.

62 Fed. Reg. 54900, 54907 (Oct. 22, 1997) (Preamble to CAM rule).

iii. The Draft Permit Fails to Include PM Monitoring Requirements from Applicable State Regulations.

The draft permit contains the applicable PM emission limit from 10 CSR 10-5.030, but fails to include the monitoring provisions from the regulation. 10 CSR 10-5.030 specifies that:

> (C) The heat input used for each indirect heating source shall be the equipment manufacturer's or designer's guaranteed maximum input in millions of BTU's per hour, whichever is greater.
> (D) The amount of particulate matter emitted shall be determined as specified in 10 CSR 10-6.030, section (5).

The test methods for PM specified in 10 CSR 10-6.030 are Method 5 for filterable PM and Method 202 for condensible PM. (Method 17 is also included for filterable PM for certain industrial processes as determined by the director.) The draft permit does not reference these test methods in the monitoring requirements for the PM emission limit.

While the state regulations provide for the abovementioned testing methods, they do not require that monitoring actually occur. They neither require facilities actually to employ those methods nor specify any frequency at which monitoring must occur. Thus, DNR should revise the draft permit to include the requirement that PM emissions from boilers 1 and 2 will be determined using Method 5 and Method 202, and to specify monitoring frequencies. At a minimum, annual stack testing should be required.

iv. The Monitoring Requirements Associated with Applicable State Regulations, Even if Supplemented with a Monitoring Frequency, Would Not Constitute Adequate Periodic Monitoring.

The most effective way to ensure compliance with a continuous PM emissions limit is to install a device that directly and continuously measures PM emissions. Just as the Sioux plant already

employs Continuous Emissions Monitoring Systems (CEMS) to measure its SO_2, NO_x, and CO_2 emissions, it could and should also employ a CEMS to monitor continuously its PM emissions. The feasibility of PM CEMS is demonstrated by the fact that other coal-fired power plants in Missouri already employ PM CEMS. Those plants include Kansas City Power & Light's Montrose Plant (to verify performance of ESP) and Kansas City Power & Light's Iatan Plant. In addition, the PSD permit issued by DNR to Associated Electric Cooperative Inc. for a new plant in Norborne also required use of a PM CEMS. Because the PM limit for the Sioux plant is an instantaneous limit, AmerenUE should be required to install a CEMS to ensure compliance with the PM limit applicable to boilers 1 and 2.

Air Pollution Control Program Response to Public Comment:

(1) Excursion Level:

- The CAM plan's excursion level is set with a 10% margin of compliance or better consistent with EPA's presumptively acceptable CAM plan for PM controlled by ESPs on coal-fired boilers (available at: http://www.epa.gov/ttn/emc/cam/espcam.pdf); therefore, no change to the excursion level is necessary.
- As the boilers are all opacity-limited (i.e. they will exceed their opacity limitations under 10 CSR 10-6.220 prior to an excursion and/or exceedance under 10 CSR 10-5.030), corrective action is required when the opacity standard is exceeded. The opacity standard is 20% with one six minute exception up to 40% per hour; therefore, corrective action is required to limit opacity (and thus decreasing/limiting PM) prior to any excursion or exceedance of 10 CSR 10-5.030 providing an additional margin of compliance.

(2) Condensible PM:

- The EPA states that the purpose of Compliance Assurance Monitoring (CAM) is to conduct monitoring to determine that control measures, once installed or otherwise employed, are properly operated and maintained so that they continue to achieve a level of control that complies with applicable requirements (from CAM Technical Guidance Document available at: http://www.epa.gov/ttnchie1/mkb/documents/TSD_1.pdf). The CAM plan for AmerenUE – Sioux was designed to assure the ESPs on Boiler Units 1 and 2 continue to achieve a level of control demonstrating compliance with the PM emission limitation of 10 CSR 10-5.030.
- ESPs on coal-fired boilers show a fractional collection efficiency greater than 99% for fine (less than 0.1 micrometer) and coarse particles (greater than 10 micrometers) and a reduced collection efficiency for particle diameters between 0.1 and 10 micrometers (from AP-42 1.1.4.1). AP-42's definition of coarse particles within 1.1.4.1 as particles greater than 10 μm, would exclude $PM_{2.5}$ and condensables. As the majority of particulate emission reductions due to ESP control are on the filterable coarse particles, the CAM plan was written to assure that the ESP continued to collect the filterable coarse particles at an efficiency sufficient to demonstrate compliance with the 10 CSR 10-5.030 PM emission limitation.
- The PM emission limitation within 10 CSR 10-5.030 was initially created in 1967. Condensable PM was not originally intended to be regulated at that time as condensable PM only became a consideration within the past decade.

- AmerenUE – Sioux is currently operating under OP2001-012A, issued February 13, 2001. Due to length of time the installation has been operating under their current permit (almost 10 years for a 5 year permit), the Missouri Air Pollution Control Program would like to issue the more stringent draft permit without further delay. The Missouri Air Pollution Control Program is requiring stack testing and PM to Opacity correlation in the draft permit as a sufficient placeholder to demonstrate compliance with 10 CSR 10-5.030 and 40 CFR Part 64 until new stack testing and correlation can be performed. The permit has been updated to require new stack testing be performed using Method 17 for filterable PM and Method 202 for condensable PM no later than one year after permit issuance and an amendment submitted to update the CAM requirements no later than 6 months after the date of the stack testing.

(3) Periodic Monitoring:

- The installation performed stack testing using Method 17, 10 CSR 10-5.030 does not require repeat performance testing; therefore, subsequent periodic monitoring is not required. However, due to changes in the particulate emissions profile as the boilers age, the Air Pollution Control Program is requiring repeat performance testing every three years. The installation performs continuous opacity monitoring to determine proper ESP operation and compliance with the PM emission limitation. Annual stack testing is not required by 10 CSR 10-5.030 or 40 CFR 64.
- The CAM rule does not require periodic monitoring in addition to continuous monitoring. Continuous emissions monitoring through the use of a continuous emissions monitoring system such as the continuous opacity monitoring system required to demonstrate compliance with 40 CFR 64 and 10 CSR 10-5.030 within the permit allow the permittee to demonstrate continuous compliance with the regulations - a more stringent method of compliance than periodic monitoring; therefore, compliance with the continuous monitoring requirements demonstrates compliance with the less stringent periodic monitoring requirements.

(4) "A PM exceedances has likely occurred":

- The "likely" has been removed to avoid confusion; however, it should be noted that excess emissions may be excused under 10 CSR 10-6.050 provided the installation has submitted the proper notification to the Missouri Department of Natural Resources' Air Pollution Control Program documenting the excess emissions were the result of malfunction, start-up, or shutdown (these notifications are reviewed by the director or the commission to determine if the excess emissions shall be viewed as a violation or waived as the consequence of malfunction, start-up, or shutdown).

(5) PM CEMS:

- The boilers are required to have COMS per 10 CSR 10-6.220(3)(E)1; requiring a PM CEMS when COMS is already installed and stack testing has already been performed to provide a PM emissions to opacity correlation would be an unnecessary financial burden upon the installation. A PM CEMS is not a listed requirement anywhere within 10 CSR 10-5.030 or 40 CFR 64, nor is a PM CEMS used within EPA's presumptively acceptable CAM plan for PM controlled by ESPs on coal-fired boilers; therefore, AmerenUE – Sioux is not required to install, operate, or maintain a PM CEMS at this time.

EPA Comment:

(1) Excursion Level
It is important to note that the letter referenced by the commenter did not state that MDNR must have a 70% margin of compliance when using opacity to determine compliance with a PM limit. The letter only suggests that a 70% margin of compliance would be acceptable. Moreover, the letter does not say that a 10% margin of compliance would he unacceptable.

EPA has published formal guidance explaining what is an acceptable margin of compliance. In EPA's
"Compliance Assurance Monitoring Protocol for an Electrostatic Precipitator Controlling Particulate
Matter Emissions from a Coal-Fired Boiler" available at
http://www.epa.gov/ttn/emc/cam/espcam.pdf, the guidance states 10% is an acceptable margin of compliance when using opacity readings from a COMS to verify compliance with a PM limit.

MDNR should remove the second sentence in the second bullet (under their response for "Excursion
Level") describing the mathematical weighting of opacity over a 60 minute period. This gives the impression that if Ameren reported 22% opacity all the time, they would still be in compliance. In fact, that mode of operation would result in non-compliance for 54 minutes over a 60 minute period.

(2) Condensible PM
A major portion of the uncertainty in an opacity to PM correlation in the *site specific* particle size distribution is based on the type of coal burned, control equipment, and boiler type. If Ameren has a specific distribution for the Sioux plant that makes the same point MDNR is making in analyzing AP-42 distribution, that might be useful. Otherwise, MDNR should remove the AP-42 distribution from their response to comment.

The commenter points out that 10 CSR 10-6.030 suggests that, by definition, PM is to include both filterable and condensible PM emissions. They believe, therefore the state should address condensable PM emissions in the limit under 10 CSR 10-5.030.

EPA believes the commenter meant to cite the definition of PM 10 CSR 10-6.020 because there is no definition for PM in 10 CSR 10-6.030. Second, this definition in 10 CSR 10-6.020 was updated in the
Missouri SIP on February 28, 2006, along with ambient monitoring methods for $PM_{2.5}$ in 10 CSR 10-
6.030. In Missouri's application for the SIP revisions, it made clear that the revisions provided for proper *ambient* monitoring for the 1998 $PM_{2.5}$ NAAQS. Region 7 approved the changes.

10 CSR 10-5.030 was not revised in the February 28, 2006, therefore, the emission limits for coarse, filterable PM remained the same. Because specific limits have not been set for PM_{10} or $PM_{2.5}$ in 10 CSR

10-5.030 there is no requirement to create such limit in the Title V permit

"Sampling Methods for Air Pollution Sources", found in 10 CSR 10-6.030, identifies the *stack* sampling methods used to verify compliance with PM, PM_{10}, and $PM_{2.5}$ emission limitations established by the department. In the instant case, EPA Reference Methods 5 or 17, found at 10 CSR 10-6.030(5)(A) and (B), are the appropriate sampling methods for the PM limits found in 10 CSR 10-5.030. These methods quantify, under controlled stack conditions, only the *coarse, filterable* PM concentration in the stack gas.
While EPA and MDNR can require sources to measure condensible PM to better inform any air quality modeling done in support of a fine PM control strategy, the condensible fraction is not a regulatory component of the SIP-approved coarse, filterable PM emission limits in 10 CSR 10-5.030, and therefore need not be sampled to verify compliance with the 0.12 lb/mmBtu limit in the Title V operating permit or for any correlations established pursuant to the periodic monitoring or the CAM plan requirements. That said, any time MDNR establishes direct emission limits for PM_{10} or $PM_{2.5}$ such as in a PSD construction permit, we believe both the filterable and condensible components should be considered when setting and verifying compliance with the limits.

EPA supports requiring Ameren to stack test their Sioux units for both filterable and condensible PM.
The filterable testing using EPA Method 17 is necessary to set a PM and opacity correlation for Sioux's CAM plan. The condensible testing using EPA Method 202 works well as a tool for information gathering on $PM_{2.5}$ emissions, but the Method 202 testing should not be used in setting the opacity and
PM correlation in Sioux's CAM plan because there is no $PM_{2.5}$ emission limit to correlate with opacity.
Again, 10 CSR 10-5 .030 only has a coarse filterable PM emission limit.

MDNR has significant latitude to interpret its PM-related rules, but we encourage you to consider the comments provided by EPA when making your final permit decision

(3) Periodic Monitoring
In the first bullet, MDNR mentions that annual stack testing would be an unnecessary financial burden for the installation. While this may be true, MDNR should remove the "financial burden" statement from its response or demonstrate how the cost of testing would be financially burdensome to Ameren.

EPA has disagreed with state permitting agencies that have tried to use a one time stack test to assure compliance with an emission limit for the duration of the title V permit. See e.g. http://www.epa.gov/region07/air/title5/petitiondb/petitions/ravenswood_decision2001.pdf

MDNR is not using the required stack test as the sole measurement of compliance with the PM limit (including condensible and filterable PM emissions). MDNR is requiring the source to do stack testing and then requiring the source to establish an up-to-date PM and opacity correlation in the PM CAM. The

"true-up" correlation will establish the PM and opacity correlation and correct opacity excursion levels to indicate exceedances of the PM limit.

MDNR should consider that the next Part 70 permit for Ameren's Sioux Plant may not be issued until well after the expiration date of this Part 70 permit. Therefore, the one time stack test to establish a PM and opacity correlation could be used for compliance longer than five years. Five years is a significant amount of time when considering the life a coal fired boiler and the useful life of an ESP. It is likely that the PM emission profile of both units will change over a five year period. Ameren also recently installed flue gas desulfurization on both Sioux units, which will affect PM emissions (MDNR might want to require stack testing be done at least 180 days after the scrubbers were installed or when the scrubbers begin normal operation). Instead of requiring a one time PM stack test to determine compliance for the
duration of the Title V permit, MDNR should require Ameren to establish the PM and opacity correlation
for Sioux every three years using EPA Method 17.

EPA agrees that the CAM Rule does not require periodic monitoring in addition to continuous monitoring. Continuous emissions monitoring through the use of a continuous emissions monitoring system such as the continuous opacity monitoring system, required to demonstrate compliance with 40 CFR Part 64 and 10 CSR 10-5.030 allow the permittee to demonstrate continuous compliance with the regulations. However, the commenter has asked that MDNR make a record in the permit that the 40 CFR Part 64 plan for Sioux meets the Act's requirement for periodic monitoring of PM emissions MDNR should consider inserting its response to comments in the either the statement of basis of the permit or the 40 CFR Part 64 plan.

(4) "A PM exceedance has *likely* occurred"
EPA asks that MDNR take out the word "likely" from this section of the permit. It adds confusion as to whether an exceedance occurred or not. While the exceedance may be excused under certain regulations, it should still be identified as an exceedance in the permit:

(5) PM CEMS
Given MDNR and Ameren establish a PM and opacity correlation in their 40 CFR Part 64 PM plan and Ameren correctly operates and maintains their COMS for both boilers as required by the plan, MDNR has established a proper measure to assure Sioux is meeting its PM limit.

Air Pollution Control Program Response to EPA Comment:

(1) Excursion Level:

- The second sentence under the second bullet regarding weighted opacity averaging has been removed.

(2) Condensible PM:

- Ameren does not have a site specific particle size distribution for Sioux; therefore, I have removed the particle size distribution wording altogether.
- The operational limitation requiring new stack testing at Sioux remains in the permit. The requirement for the installation to submit a significant modification application has been

updated to require a filterable PM to Opacity correlation rather than a total PM to Opacity correlation.

(3) Periodic Monitoring:

- The reference to "financial burden" has been removed.
- The Title V permit has been updated to require stack testing 180 days after the installation of flue gas desulfurization, but within one year of the permit's issuance.
- The Title V permit has been updated to require repeat stack testing every 3 years and to require revisions of the filterable PM to Opacity correlation in response to the stack testing.
- This Response to EPA Comments document has been listed as a Permit Reference Document within the Title V permit's Statement of Basis.

(4) "A PM exceedances has likely occurred":

- The "likely" has been removed.

Public Comment No. 4:

The Draft Permit Contains Inadequate Periodic Monitoring Requirements to Ensure Compliance with Opacity Limits.

Several provisions in the permit set forth opacity monitoring schedules that are neither sufficient to ensure compliance (and therefore fail to provide adequate periodic monitoring) nor practically enforceable. Permit Conditions (EP-1 through EP-4) – 002, (HR-1) – 002, and (M-1 through M-5) – 001 specify opacity limits of 20%, with an exception up to 40% for a total of six minutes in any sixty minutes, in accordance with 10 CSR 10-6.220. To comply with these limits, AmerenUE must conduct weekly observations using Test Method 22 for eight weeks. If no violation occurs during those eight weeks, then the monitoring is relaxed and AmerenUE need only conduct observations every other week for eight weeks. If no violation occurs during those eight weeks, then the monitoring is further relaxed to only once per month.

The application of Test Method 22 only once per month is too infrequent to ensure compliance with a continuous opacity limit. Testing only one day per month does not account for 96% of the days in a month, and is insufficient to determine whether the covered emissions sources are complying with their opacity limits. Monthly testing essentially renders the continuous opacity limit ineffectual and impairs the ability of the facility, regulators, and citizens to ensure that the Sioux plant is complying with these opacity limits. DNR should revise the permit to include a more frequent monitoring schedule that is sufficient to ensure compliance with the opacity limits in 10 CSR 10-6.220 and satisfies Title V's periodic monitoring and practicable enforceability requirements.

Air Pollution Control Program Response to Public Comment:

The only emission units required by 10 CSR 10-6.220(3)(E) to demonstrate compliance with continuous opacity monitoring systems are coal-fired steam generating units with a maximum heat input rate grater than 250 mmBtu/hr, portland cement calcining kiln operations, and any

source required to operate a continuous opacity monitoring system under 40 CFR Part 60. The emission units in questions are limestone storage exhaust fans, a haul road, and coal unloading, storage, handling and crushing as such these emission units are not required to operate and maintain a continuous opacity monitoring system. The monitoring schedule included within Permit Conditions (EP-1 through EP-4) – 002, (HR-1) – 002, and (M-1 through M-5) – 001 has been employed by the Missouri Air Pollution Control Program for many years. The schedule provides an incentive (i.e. reduced monitoring) for remaining in compliance. The schedule begins with weekly monitoring to ensure compliance with the opacity limitation. After 8 readings (8 weeks ~ 2 months) demonstrating compliance at this monitoring frequency, the installation is allowed to decrease monitoring to once every two weeks. After 4 readings (8 weeks ~ 2 months) demonstrating compliance at this monitoring frequency, the installation is allowed to decrease monitoring to once each month. If at any time the installation exceeds the opacity standard they are required to revert back to weekly monitoring beginning the schedule again. This schedule has been proven effective by its many years of practical implementation. Increased monitoring would reduce the incentive to remain in compliance and prove unnecessarily burdensome to the installation. The installation does not have a history of habitually violating this schedule for these emission units. If the installation should demonstrate frequent violations the Missouri Air Pollution Control Program's Enforcement Section has the right to issue Notice of Violations and require a compliance plan.

Public Comment No. 5:

The Draft Permit Contains Inadequate Periodic Monitoring Requirements to Ensure Compliance with the SO_2 Emission Limit in Condition (B-1 and B-2) – 008.

The draft permit contains two separate SO_2 emission limits for boilers 1 and 2. Condition (B-1 and B-2) – 001 limits SO_2 emissions to 4.8 lb/mmBtu actual heat input averaged on a daily basis. Condition (B-1 and B-2) – 008 limits SO_2 emissions to 4.73 lb/mmBtu actual heat input averaged on a daily basis when burning petroleum coke in boiler 1 and/or boiler 2. Although Condition (B-1 and B-2) – 001 requires monitoring with a CEMS for SO_2 to assure compliance, there are no monitoring requirements to assure compliance with Condition (B-1 and B-2) – 008. Instead, coal and petroleum coke records are used to estimate emissions.

It is unclear why the SO_2 CEMS is not used to assure compliance with Condition (B-1 and B-2) – 008. Rather than estimate emissions using recordkeeping and a series of calculations, the permit should require the use of the SO_2 CEMS to measure SO_2 emissions when petroleum coke is burned boiler 1 and/or boiler 2 to assure compliance with Condition (B-1 and B-2) – 008.

Air Pollution Control Program Response to Public Comment:

As these conditions were incorporated into the operating permit draft from a construction permit, no changes are required; however, the installation has agreed to monitor their emissions using the SO_2 CEMS as it is easier for them. This change is allowed as actual emissions measured by a CEMS are more accurate than calculated emissions based upon the average sulfur content of the petroleum coke. The construction permit which has been in effect since October 23, 1998, only requires the sulfur dioxide emissions per million BTUs of actual heat input to be calculated on a

daily average basis; therefore, Attachment F has been updated to calculate the daily average SO_2 emissions per actual petroleum coke heat input.

Public Comment No. 6:

The Draft Permit Fails to Ensure that the Plant Will Not Cause or Contribute to Violations of the New One-Hour NAAQS for SO_2.

The draft permit incorporates SIP regulations which govern SO_2 emissions and preclude certain sources of SO_2 emissions, including the Sioux plant, from causing or contributing to concentrations exceeding the sulfur-related ambient air quality standards. On June 22, 2010, EPA amended the SO_2 NAAQS by revoking the 24-hour and annual standards and establishing a new one-hour standard. 75 Fed. Reg. 35520 (June 22, 2010) (effective August 23, 2010). Although Missouri has not yet had the opportunity to update the state regulations to reflect the revised SO_2 NAAQS, it will have to at the least adopt the new one-hour SO_2 NAAQS in the near future because state law must be at least as stringent as applicable federal law. 42 U.S.C. § 7416. The Sioux permit should be revised to include the new one-hour SO_2 NAAQS in the provisions that preclude the plant from causing or contributing to ambient air quality exceedances.

Air Pollution Control Program Response to Public Comment:

The new SO_2 NAAQS has been incorporated into the draft operating permit. The new standard wasn't included in this public notice draft as the amendment did not occur until June 22, 2010 – after the draft had already been placed on public notice May 18, 2010. The new standard was not effective until August 23, 2010.

The new SO_2 NAAQs does not by itself impose any obligation on the installation. Missouri must first evaluate the state and determine which areas are in attainment and nonattainment. Areas designated as nonattainment by Missouri and approved by the EPA will be subject to SO_2 emission reduction standards as promulgated by Missouri for incorporation into Missouri's EPA-approved State Implementation Plan. If Missouri promulgates any new standards to reach attainment with the new SO_2 NAAQS which are applicable to the installation the permit shall be reopened/revised no later than 18 months after the standards promulgation unless the effective date of the newly applicable requirement is later than the date on which the permit is due to expire per the requirements of §70.7(f)(1)(i).

The Missouri Air Pollution Control Program would also like to note that the SO_2, H_2S, and H_2SO_4 NAAQS were included in the operating permit due to the requirements of 10 CSR 10-6.260(3)(B): "Restriction of Concentration of Sulfur Compounds in the Ambient Air. In addition to the limitations specified in subsections (3)(A), (3)(C), and (3)(D) of this rule, no person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. Except as may be specified elsewhere in this rule, the methods for measuring ambient sulfur compound concentrations are specified in 10 CSR 10-6.040." 10 CSR 10-6.260(3)(B) is not SIP approved and; therefore, not federally enforceable.

EPA Comment:

MDNR should add language following the language in Section III. Emission Limitations 2, preferably in another numbered subsections, ' describing direct compliance with the NAAQS as a "state only" requirement. MDNR is correct that these concentrations are not federally enforceable, but the permit should make it clear that only the state can directly enforce this requirement.

Air Pollution Control Program Response to EPA Comment:

Under each application of 10 CSR 10-6.260(3)(B) the following has been added: Note: This requirement is not federally enforceable. This requirement can only be directly enforced by the State of Missouri.

Public Comment No. 7:

The Draft Permit Contains Numerous Provisions That Lack Practical Enforceability.

A Part 70 permit must not only contain all applicable requirements; it must be sufficiently clear and specific to ensure that those requirements are enforceable as a practical matter. As stated by EPA, the requirement of "practical enforceability" can be described as follows:

> A permit is enforceable as a practical matter (or practically enforceable) if permit conditions establish a clear legal obligation for the source [and] allow compliance to be verified. Providing the source with clear information goes beyond identifying the applicable requirement. It is also important that permit conditions be unambiguous and do not contain language which may intentionally or unintentionally prevent enforcement.

Permit conditions must contain sufficient detail to ensure that the facility and the public clearly understand obligations in the permit and how compliance with these requirements will be evaluated. The Office of Inspector General reported to the EPA that "the presence of vague permit language. . . makes a permit virtually unenforceable, or not practically enforceable." Vague permit provisions preclude the permittee from understanding its obligations and preclude regulators and the public from ensuring that the permittee is complying with its obligations.

Vague permit language undermines the purpose of the Title V/Part 70 program. The following provisions in the draft permit are unacceptable vague:

> (1) Several provisions in the permit require AmerenUE to comply with "manufacturer's specifications," "manufacturer's suggested application rate," or "industry standards." Any standard that is based on what the manufacturer or industry specifies is practically unenforceable because the compliance criteria are not in the permit, not necessarily available to the public, and subject to change at the manufacturer's will. According to EPA, a permit "must contain more explicit monitoring requirements" than just the manufacturer's specifications. As such, the following sections should be amended to include more specific compliance requirements that make clear the permittee's

obligations to the permittee, regulators, and the public in order to ensure practical enforceability:

a. Pg. 16, Permit Condition (EP-1 through EP-4 and HR-1) 001, Operational Limitations (1)

b. Pg. 16, Permit Condition (EP-1 through EP-4 and HR-1) 001, Operational Limitations (2)

c. Pg. 19, Permit Condition (HR-1) 002, Monitoring (4)(b)(i)

d. Pg. 26, Permit Condition (M-1 through M-5) 001, Monitoring (4)(b)(i)

e. Pg. 27, Permit Condition (MH-1 through MH-4) 001, Operational Limitation (2)(a)(i)

(2) A number of provisions provide standards that require the permittee to take some action that is "normal." This standard is so vague that it is practically unenforceable: "normal" is a vague and subjective term. EPA has held that the permitting authority "must make clear either in the permit or statement of basis what constitutes 'normal' operating conditions for the purposes of this test." The unenforceable "normal" standard appears in a number of places in the draft Part 70 Permit. The following provisions should be amended to state the permittee's obligations in far more specific terms in order to ensure practical enforceability:

a. Pgs. 11-12, Permit Condition (B-1 and B-2) 003, Monitoring (5)(a)

b. Pg. 17, Permit Condition (EP-1 through EP-4) 002, Record Keeping (1)(c)

c. Pg. 27, Permit Condition (M-1 through M-5) 001, Record Keeping (1)(c)

d. Pg. 37, Core Permit Requirements, Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin, Recordkeeping (2)

The use of normal in (a) and (d) above (Permit Condition (B-1 and B-2) - 003 and Core Permit Requirements) as written in the permit mimics the language in the state regulations. However, the use of the term "normal" in these instances is too vague to satisfy the practical enforceability requirements of Part 70 of the Clean Air Act. *See* 40 CFR §70.6(b)(1).

(3) At page 40, General Permit Requirements, General Record Keeping and Recording Requirements, (2)(d)(ii), the permit states, "any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable." Any timeline that requires action "as soon as practicable" is practically unenforceable for lack of definition. Without a timeframe defining "practicable," the permittee could set its own timeline without accountability.

(4) Several provisions in the draft permit require maintenance, repair, or application of Best Management Practices "as necessary." This leaves the required action up to the permittee and does not provide practical enforceability. The following provisions need to be more specific as to what "as necessary" entails:

a. Pg. 16, Permit Condition (EP-1 through EP-4 and HR-1) 001, Operational Limitation (3)

b. Pg. 18, Permit Condition (HR-1) 002, Monitoring (4)(a)(ii)

c. Pg. 19, Permit Condition (HR-1) 002, Monitoring (4)(b)(i)

d. Pg. 26, Permit Condition (M-1 through M-5) 001, Monitoring (4)(a)(ii)

e. Pg. 27, Permit Condition (MH-1 through MH-4) 001, Operational Limitation (2)(a)(i)

f. Pg. 28, Permit Condition (MH-1 through MH-4) 001, Operational Limitation (2)(b)(i)

(5) At page 45, General Permit Requirements, Emergency Provisions, (1)(c): The permittee must demonstrate "that the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit." In 2005 the EPA objected to the term "reasonable steps:" "Because neither the SIP nor [the permit section] species criteria to determine what constitutes 'reasonable steps' . . . the condition is practicably unenforceable."

(6) At page 32, Permit Condition (TK-11) 001, Test Methods: The test method is "determined by the staff director," and not listed within the permit. For the test method to be practically enforceable, it must be specified in the permit and made clear to the permittee, federal and state regulators, and the public.

Air Pollution Control Program Response to Public Comment:

The Missouri Air Pollution Control Program has been using the permit language in question for close to 30 years without any detrimental effect to the quality of Missouri's air. Practical implementation over the past 30 years has proven the effectiveness of the wording and proven to be protective of the standards they were intended for; however, if inspectors should note improper adherence within any of the provisions, the permit can be reopened to incorporate more specific wording.

(1) Manufacturer's Specifications:

- Operational Limitations 1 and 2 of Permit Condition (EP-1 through EP-4 and HR-1) – 001 were incorporated into the operating permit draft directly from Special Conditions 2 and 3.A of Construction Permit No. 092006-003B and have been effective since June 9,

2008. The installation is now required to maintain the manufacturer's specifications on site to ensure that the bin vent filters are maintained and operated within the manufacturer's specifications. The installation is now required to retain documentation of the ASTM standards complied with while applying pavement to and maintaining the pavement on the haul road.

- The reference to "manufacturer's suggested application rate" within the *Best Management Practices* is necessary as different chemical dust suppressants have different application rates. It is not the goal of the Air Pollution Control Program to unnecessarily restrict the installation to a specific chemical dust suppressant so that a specific application rate can be included within the permit. The permittee is now required to retain the manufacturer's specifications for the chemical dust suppressant on site so that inspectors can verify the amount and frequency of chemical dust suppressant application is consistent with the "manufacturer's suggested application rate.
- Permit Condition (MH-1 through MH-4) - 001, Operational Limitation (2)(a)(i) was removed from the operating permit draft (see my response to Ameren Corporation's Comment No. 13).

(2) Normal Operating Conditions:

- Permit Condition (B-1 and B-2) – 003 Monitoring Condition (5)(a) was taken directly from 40 CFR 64.7(d)(1). As the wording is part of a federal regulation, no further clarification is necessary.
- The references to "normal" and "abnormal" visible emissions within Permit Condition (EP-1 through EP-4) – 002, Permit Condition (M-1 through M-5) – 001, and Attachment B have been clarified.
- Core Permit Requirement 10 CSR 10-6.170 and Attachment A have been clarified.

(3) "As soon as practicable":

- The wording in question comes directly from 10 CSR 10-6.065(6)(C)1.C(III)(c)II: "Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable." This condition is part of Missouri's federally-approved State Implementation Plan (SIP); therefore, no changes are necessary.

(4) "As necessary":

- Operational Limitation No. 3 of Permit Condition (EP-1 through EP-4 and HR-1) – 001 was incorporated directly from Special Condition No. 3.B of Construction Permit No. 092006-003B and has been effective since June 9, 2008. The installation is now required to retain documentation of the ASTM standards complied with while applying pavement to and maintaining the pavement on the haul road.
- The reference to "as necessary" within the *Best Management Practices* Pavement of Road Surfaces section is necessary as degradation of a road surface is highly dependent upon the road surface material and the amount/type of vehicle usage. In order to specify frequency of maintenance and road repair the MO APCP would have to limit the installation to a specific road surface material as well as limit the amount and type of vehicle activity, which would greatly hinder operational flexibility. Degradation to the physical integrity of a road surface is highly visible and not easily overlooked by the permittee or enforcement officials. Should the permittee fail to adhere with this

requirement the Missouri Air Pollution Control Program can require a compliance plan with more stringent requirements. The installation is now required to obtain the frequency of the road surface maintenance/repair from ASTM standards. The installation is also required to document which ASTM standards it is complying with.

- The reference to "as necessary" within the *Best Management Practices* Usage of Chemical Dust Suppressants is necessary as different chemical dust suppressants have different effective periods. It is not the goal of the Air Pollution Control Program to unnecessarily restrict the installation to a specific chemical dust suppressant so that a specific re-application rate can be included within the permit.
- Permit Condition (MH-1 through MH-4) - 001, Operational Limitations (2)(a)(i) and (2)(b)(i) were removed from the operating permit draft (see my response to Ameren Corporation's Comment No. 13).

(5) "All reasonable steps":

- This wording comes from the emergency provisions clause within 10 CSR 10-6.065(6)(C)7.B: "Affirmative defense requirements. The permitting authority shall include in each permit a provision stating that an emergency or upset constitutes an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upsetbased defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:

  (I) An emergency or upset occurred and the permittee can identify the source of the emergency or upset;

  (II) The installation was being operated properly;

  (III) The permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or the requirements in the permit; and

  (IV) The permittee submitted notice of the emergency to the permitting authority within two (2) working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken."

  The Missouri Air Pollution Control Program cannot provide reasonable steps to minimize emissions during/after an emergency situation due to their unforeseeable nature. It is the burden of the permittee to minimize emissions as much as possible in the event of an emergency and provide documentation for their affirmative defense. These affirmative defenses are reviewed by the Missouri Air Pollution Control Program's enforcement section. The enforcement section uses their discretion to determine whether the excess emissions should be waived due to the emergency or whether enforcement action should occur. The enforcement section bases their decision to accept or deny affirmative defenses on the exact nature of the emergency (the nature of the emergency greatly determines what measures are available to the permittee to limit excess emissions), the measures the permittee took to minimize emissions, the past compliance record of the installation, and the speed of the submittal of the emergency notification by the installation.

(6) "Determined by the staff director":

- This permit condition comes directly from 10 CSR 10-5.220(5)(D): "Delivery vessel, vapor recovery system or gasoline loading equipment may be monitored by the staff director at any time by a method determined by the staff director to confirm continuing compliance with this rule" included within Missouri's federally-approved State Implementation Plan; therefore, no changes are necessary.

EPA Comment:

(1) Manufacturer's Specifications
Where MDNR uses the terms "manufacturer's specifications," "manufacturer's suggested application rate," or "industry standards," it should either define, clarify the terms in the permit or provide a citation to the definitions for the terms. If the terms were defined in a previous construction permit, MDNR should make those definitions present in this title V permit.

(4) "As necessary"
Where MDNR uses the term "as necessary" they should either define, clarify in the permit or provide a citation to the definition for the term. If the term was defined in a previous construction permit, MDNR should make those definitions present in this title V permit.

(5) "All reasonable steps"
EPA agrees with MDNR's response and suggests that it should be provided in the permit as a definition for "all reasonable steps."

(6) "Determined by the staff director"
EPA agrees with MDNR's response and suggests that it should be provided in the permit as a definition
for "determined by the staff director."

Air Pollution Control Program Response to EPA Comment:

(1) Manufacturer's Specifications:

- Operational Limitations 1 and 2 of Permit Condition (EP-1 through EP-4 and HR-1) – 001
    - The installation is now required to retain the manufacturer's specifications on site to ensure that the bin vent filters are maintained and operated within the manufacturer's specifications. The installation is now required to retain documentation of the ASTM standards complied with while applying pavement to and maintaining the pavement on the haul road.
- *Best Management Practices* chemical dust suppressant application rate
    - The permittee is now required to retain the manufacturer's specifications for the chemical dust suppressant on site so that inspectors can verify the amount and frequency of chemical dust suppressant application is consistent with the "manufacturer's suggested application rate".

(4) "As necessary":

- Operational Limitation No. 3 of Permit Condition (EP-1 through EP-4 and HR-1) – 001

  - The installation is now required to retain documentation of the ASTM standards complied with while applying pavement to and maintaining the pavement on the haul road.
- *Best Management Practices* maintenance/repair of paved road surfaces
  - The installation is now required to obtain the frequency of the road surface maintenance/repair from ASTM standards. The installation is also required to document which ASTM standards it is complying with.
- *Best Management Practices* chemical dust suppressant application rate
  - The permittee is now required to retain the manufacturer's specifications for the chemical dust suppressant on site so that inspectors can verify the amount and frequency of chemical dust suppressant application is consistent with the manufacturer's suggested application rate.

(5) "All reasonable steps":
- This Response to EPA Comments document has been listed as a Permit Reference Document within the Title V permit's Statement of Basis.

(6) "Determined by the staff director":
- This Response to EPA Comments document has been listed as a Permit Reference Document within the Title V permit's Statement of Basis.

Public Comment No. 8:

The Draft Permit Unlawfully Excuses Certain Emissions During Startup, Shutdown, and Malfunctions.

Permit Condition (B-1 and B-2) – 003, p. 10, Emission Limitation ¶ 2 states, "emissions in excess of the level of 0.12 lbs/mmBtu of heat input during periods of start-up, shutdown, and malfunction may be excused under 10 CSR 10-6.050." The draft permit language is not faithful to, and substantially undermines, the cited regulation, which does not excuse emissions violations. Instead, the regulation gives the DNR director the discretion not to seek penalties against the owner or operator under certain circumstances. "Excusing" a violation potentially deprives EPA and/or citizens from independently enforcing excess emissions related to alleged startup, shutdown, and malfunction events. The permit should be changed to adhere to the language in 10 CSR 10-6.050, which grants the director enforcement discretion but does not excuse violations.

Air Pollution Control Program Response to Public Comment:

This permit condition has been reworded to adhere to the language of 10 CSR 10-6.050(3)(C) as approved by the EPA within Missouri's State Implementation Plan. The condition was moved from the emission limitation section of the condition to the reporting section.

Public Comment No. 9:

The Draft Permit Improperly Limits the Ability of Citizens to Enforce the Permit's Requirements.

Key features of a Part 70 permit are the enhanced opportunities for compliance and enforcement due to placing all of a source's Clean Air Act obligations in one document and providing for adequate monitoring, recordkeeping, and reporting. A Title V/Part 70 permit should enable the source to heighten its compliance efforts and enable government agencies and citizens to bring enforcement actions, if necessary, to ensure compliance. To that end, state and federal regulations provide as follows:

> Except as provided in subparagraph (6)(C)2.B. of this rule [regarding state-only requirements], all terms and conditions in a permit issued under this section, including any voluntary provisions designed to limit an installation's potential to emit, are enforceable by the permitting authority, by the administrator, and by citizens under section 304 of the Act.

10 CSR 10-6.065(6)(C)2.A; 40 CFR § 70.6(b)(1).

The three crucial elements to ensure enforceability are adequate monitoring (discussed elsewhere in these comments), recordkeeping, and reporting. Although federal and state regulations require permittees to submit reports of "any required monitoring at least every six months," 40 CFR § 70.6(a)(3)(iii)(A) (emphasis supplied), and EPA highlights the fact that Title V/Part 70 permits should enable the public to "[t]rack compliance by reviewing reports/certifications submitted by sources," the draft Part 70 permit for the Sioux plant fails to meet this requirement and thereby undermines its enforceability by citizens.

Several conditions in the draft Part 70 permit require AmerenUE to maintain more detailed records of its monitoring activities on site, but to report only deviations and exceedances rather than all required monitoring results:

- Permit Condition (B-1 and B-2) – 001 (pp 8-9): Although Ameren is required to continuously monitor sulfur dioxide emissions using a Continuous Emission Monitoring System (CEMS) and to maintain hourly records of the SO_2 emission rate, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Record Keeping, ¶¶ 1, 5, 6, and Reporting, ¶¶ 1-2.
- Permit Condition (B-1 and B-2) – 006 (pp 14-15): Although Ameren is required to maintain a log of all combusted municipal solid waste, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Record Keeping, ¶¶ 1-2, and Reporting, ¶¶ 1-2

- Permit Condition (B-1 and B-2) – 007 (p 15): Although Ameren is required to monitor and record TDF consumption, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Recordkeeping ¶¶ 1-3, and Reporting ¶¶ 1-2
- Permit Condition (B-1 and B-2) – 008 (pp 15-16): Although Ameren is required to monitor and record the amount of SO2 emissions while burning petroleum coke, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Recordkeeping ¶¶ 1-2, and Reporting ¶¶ 1-2
- Permit Condition (EP-1 through EP-4 and HR-1) – 001 (pp 16-17): Although Ameren is required to maintain a maintenance/malfunction log for the bin vent filter exhaust fans, and to keep these records available for DNR inspection, it is only required to report to DNR deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Recordkeeping ¶¶ 1-2, and Reporting.
- Permit Condition (EP-1 through EP-4) – 002 (pp 17-18): Although Ameren is required to monitor and record visible emissions from the Limestone Material Handling System through Test Method 22, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring ¶ 1, Record Keeping ¶¶ 1, 4, and Reporting ¶¶ 1-2
- Permit Condition (HR-1) – 002 (pp 18-20): Although Ameren is required to monitor and record visible emissions from the Haul Road through Test Method 22, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring ¶ 1, Record Keeping ¶¶ 1, 2, 4, and Reporting ¶¶ 1-2.
- Permit Condition (B-3) – 001 (p 20): Although Ameren is required to monitor and record fuel usage and output of the system and continuously monitor opacity emitted from the auxiliary boiler, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Recordkeeping ¶¶ 1-4, Reporting ¶¶ 1-2.
- Permit Condition (B-5A, B-5B, and B-5C) – 001 (p 23): Although Ameren is required to monitor and record the total number of operating hours of each emergency generator, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Recordkeeping, and Reporting ¶¶ 1-2.
- Permit Condition (B-5A, B-5B, and B-5C) – 002 (pp 23-24): Although Ameren is required to maintain fuel purchase receipts indicating sulfur content of the fuel oil used in the emergency diesel generators, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Record Keeping ¶¶ 1, 3 and Reporting ¶¶ 1-2.

- Permit Condition (IC-1 through IC-6) – 001 (pp 24-25): Although Ameren is required to maintain fuel purchase receipts indicating sulfur content of the fuel oil used in the diesel engines, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring/Record Keeping ¶¶ 1, 3 and Reporting ¶¶ 1-2
- Permit Condition (M-1 through M-5) – 001 (pp 25-27): Although Ameren is required to monitor and record visible emissions from Coal Handling and Storage through Test Method 22, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring ¶ 1, Record Keeping ¶¶ 1, 4, and Reporting ¶¶ 1-2.
- Permit Condition (MH-1 through MH-4) – 001 (pp 27-28): Although Ameren is required to use a wet suppression system for Barge Unloading and record the specifications of the chosen system, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Operational Limitation ¶¶ 1-2, and Reporting.
- Permit Condition (MH-1 through MH-4) – 002 (pp 28-29): Although Ameren is required to conduct and record performance tests for Coal Handling and Storage during Barge Unloading, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Monitoring ¶¶ 1-2, and Recordkeeping/Reporting ¶¶ 1-3.
- Permit Condition (EU0001) – 001 (p 31): Although Ameren is required to maintain purchase records and monthly inventory records of cold cleaner solvent, and to keep these records available for DNR inspection, it is only required to report to DNR exceedances or malfunctions which could possibly cause exceedances, and deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Record Keeping ¶¶ 1, 2, 4, and Reporting.
- Permit Condition (TK-11) – 001 (p 32): Although Ameren is required to record gasoline transfer information, and to keep these records available for DNR inspection, it is only required to report to DNR deviations from emission limitations, monitoring/recordkeeping, and reporting requirements. Reporting/Recordkeeping ¶¶ 1, 3, 4.

These permit conditions preclude citizens from reviewing the Sioux plant's records to make independent determinations of whether the reported deviations or exceedances accurately reflect the underlying monitoring data. While DNR and EPA may inspect the plant and request to see copies of all monitoring records, citizens have no comparable ability to inspect the plant's records and are forced to rely on the presumed – but not demonstrated – accuracy of the plant's deviation/exceedance reports. This limitation impairs the ability of citizens to enforce the Part 70 program.

Citizens can only access what the permittee reports to DNR. If citizens do not have access to regular monitoring, then they cannot identify a deviation or exceedance and enforce permit

violations. The draft permit provisions referenced above should be revised to ensure that all monitoring data are reported to DNR.

Air Pollution Control Program Response to Public Comment:

Submittal of the monitoring data in question semi-annually would be burdensome not only on the installation, but to the permitting authority as well. It is not the goal of the Clean Air Act to be overly burdensome. The permittee is required to retain this information on site for a minimum of five years should this information need to be reviewed. Missouri Department of Natural Resources' employees may review it at any time upon request. Public citizens may request to review this data as well, so long as the data is not entitled to confidential treatment under 10 CSR 10-6.210 [10 CSR 10-6.110(3)(C)]. Public citizens may request to review any of the recordkeeping data required by this permit by submitting a request to Missouri's Air Pollution Control Program under Missouri's Sunshine Law. Air Pollution Control Program personnel will then request the information from the facility in order to complete the Sunshine request. If the installation fails to provide the information to Missouri's Air Pollution Control Program, the installation will be in direct violation of the provisions of the operating permit and a Notice of Violation shall be issued.

This method of record retention has been proven effective over the past 30 years. Requiring the installation to submit this data semi-annually would require unnecessary usage of resources by both the installation and the Missouri Air Pollution Control Program. The permit requires the installation to report all issues of exceedances or possible exceedances semi-annually. This allows the Missouri Air Pollution Control Program to respond quickly to violations of the standards without having these exceedances obscured by copious amounts of compliant data.

Public Comment No. 10:

The Draft Permit Fails to Inform the Public of $PM_{2.5}$ and CO_2 Emissions From the Plant.

A primary goal of the Part 70 program is to inform the public about major sources' air pollution emissions and applicable emissions limits. The residents living in the Sioux plant's vicinity and downwind should be able to read the plant's Part 70 permit and obtain a clear understanding of the Sioux plant's air emissions.

Nowhere in the 82 pages of the draft Part 70 permit for the Sioux plant is there mention of the plant's substantial emissions of two harmful pollutants – fine particulate matter ($PM_{2.5}$) and carbon dioxide (CO_2). These omissions impair the ability of the public to appreciate the effects of the Sioux plant on their health and welfare and on the environment. Fine particulate matter is a pollutant proven to have adverse effects on public health and has been subject to National Ambient Air Quality Standards since 1997. 62 Fed. Reg. 38652 (July 18, 1997). Carbon dioxide endangers public health, welfare, and the environment. 74 Fed. Reg. 66496 (Dec. 15, 2009). DNR should make the following changes to the draft Part 70 permit in order to inform the public of the Sioux plant's substantial $PM_{2.5}$ and CO_2 emissions:

- State that the AmerenUE-Sioux plant is a major source of emissions of Carbon Dioxide (CO_2) and Particulate Matter $\leq$ 2.5 Microns ($PM_{2.5}$) in the Installation Description on pages one (1) and five (5) of the draft Part 70 permit;
- Add the Sioux plant's 2003 – 2008 emissions of Carbon Dioxide (CO_2) and Particulate Matter $\leq$ 2.5 Microns ($PM_{2.5}$) to the table "Reported Air Pollutant Emissions, tons per year" on page five (5) of the draft Part 70 Permit and to the table "Controlled Potential to Emit" on page five (5) of the draft Part 70 Permit's Statement of Basis.

Air Pollution Control Program Response to Public Comment:

The Reported Air Pollutant Emissions table was updated to include all emissions reported by AmerenUE – Sioux in their Missouri Environmental Inventory Questionnaires (EIQs) for the reporting years of 2005 – 2009. AmerenUE – Sioux was identified within the installation descriptions as a major source of Particulate Matter $\leq$ 2.5 Microns ($PM_{2.5}$). Potential emissions of $PM_{2.5}$ were added to the Controlled Potential to Emit table within the Statement of Basis. I also updated the potential emissions of PM_{10} as I discovered an error in one of my calculations.

Missouri does not require the installation to report CO_2 emissions in their Missouri Emissions Inventory Questionnaire; therefore, the installation's CO_2 emissions were not included within the permit. The public may obtain CO_2 emissions data for AmerenUE – Sioux by visiting EPA's Clean Air Markets website at: http://camddataandmaps.epa.gov/gdm/index.cfm. For clarification, the explanation of where to find AmerenUE – Sioux's CO_2 emissions was added to the Statement of Basis.

Public Comment No. 11:

The Draft Permit Fails to Include Emission Limits for $PM_{2.5}$ and CO_2 Necessary to Protect the Public's Health and Welfare and the Environment.

The Sioux plant is a major source of both CO_2 and $PM_{2.5}$ emissions. DNR has acknowledged that fossil fuel-fired power plants are a major source of greenhouse gas emissions, and the Sioux plant is no exception. According to EPA's Clean Air Markets Data website, the Sioux plant emitted 6,460,311 tons of CO_2 in 2007, 5,643,364.9 tons of CO_2 in 2008, and 5,558,206.6 tons of CO_2 in 2009. The plant's 2008 Emissions Inventory Questionnaire (EIQ) states that Sioux emitted 70.52 tons of $PM_{2.5}$ in 2008.

Missouri law requires DNR to take action to protect public health and welfare and the environment when threatened by air pollution:

> 2. In the absence of a generalized condition of air contaminants as referred to in subsection 1 of this section, and notwithstanding other provisions of this or any other law to the contrary, if the commission or the director determines that any person is engaging or may engage in any activity involving a significant risk of air contamination or is discharging or causing to be discharged into the ambient air, directly or indirectly, any air contaminant, and such activity or discharge constitutes a clear and present danger to the public health or public welfare or the environment, the commission or the director shall

> issue a written cease and desist order to said person to discontinue immediately such activity or discharge; provided, however, the commission may countermand such order of the director. If such person, notwithstanding such order, continues the activity or discharge of such contaminants into the atmosphere, the commission or the director shall cause to be filed by the attorney general or other counsel in the name of this state, suit for a temporary restraining order, temporary injunction, and permanent injunction. Any such action shall be given precedence over all other matters pending in the circuit courts.

§ 643.090.2, RSMo.

Although the Sioux plant is not currently subject to emission limitations for its carbon dioxide and fine particulate emissions, its emissions of those pollutants are causing or contributing to endangerments to public health, welfare, and the environment. In order to avoid issuing a cease and desist order to AmerenUE regarding the Sioux plant, DNR should set emission limits in the Part 70 permit for both CO_2 and $PM_{2.5}$. In addition, DNR should establish monitoring, recordkeeping, and reporting requirements sufficient to ensure compliance with the limits and help ensure that these emissions no longer pose a "clear and present danger" to citizens around and downwind of the Sioux plant.

A. The Sioux Plant's CO_2 Emissions Represent a Clear and Present Danger to Public Health and Welfare and the Environment.

The Sioux plant's CO_2 emissions contribute to climate change, which endangers public health and welfare and the environment. The threat of global warming on the environment and on human health is undeniable. In its 2007 synthesis report, the Intergovernmental Panel on Climate Change (IPCC) documented that "warming of the climate system is unequivocal" and described greenhouse gases as a significant "driver of climate change." The report identified several consequences of global warming, including increased risk of extinction for many species, lower ecosystem resilience, coastal erosion and human displacement due to rising sea levels, higher incidence of extreme weather events, greater stress on water resources, and numerous negative human health effects. A 2009 report by the U.S. Global Change Research Program made similar findings and emphasized the need for immediate action to reduce greenhouse gases.

Most significantly for purposes of Clean Air Act requirements, the EPA made a formal finding under the Clean Air act that greenhouse gases, including CO_2, "endanger both the public health and the public welfare of current and future generations." 74 Fed. Reg. 66496 (Dec. 15, 2009). EPA stated that "the body of scientific evidence compellingly supports this finding." Id. At 66497.

B. The Sioux Plant's $PM_{2.5}$ Emissions Represent a Clear and Present Danger to Public Health and Welfare and the Environment.

Fine particulate matter also poses severe risks "to both human health and the environment." In light of these risks, EPA promulgated $PM_{2.5}$ NAAQS in 1997 to protect human health. DNR has recognized the severe dangers posed by $PM_{2.5}$ emissions:

> Health studies have shown a significant association between exposure to fine particles and premature death from heart or lung disease. Fine particles can aggravate heart and lung diseases and have been linked to effects such as: cardiovascular symptoms; cardiac arrhythmias; heart attacks; respiratory symptoms; asthma attacks; and bronchitis. These effects can result in increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days.
>
> Roughly one out of every three people in the United States is at a higher risk of experiencing $PM_{2.5}$ related health effects. One group at high risk is active children because they often spend a lot of time playing outdoors and their bodies are still developing. In addition, the elderly population is often at high risk due to reduced lung capacity or preexisting medical conditions. People of all ages who are active outdoors are at increased risk because, during physical activity, $PM_{2.5}$ penetrates deeper into the parts of the lungs that are more vulnerable to injury.

As part of its pending review of the $PM_{2.5}$ NAAQS, EPA recently issued a draft policy assessment which underscores and further substantiates the dangers of fine particulate matter pollution.

> In looking across the extensive new scientific evidence available in this review, [EPA's] overall understanding of health effects associated with fine particle exposures has been greatly expanded. A number of large multi-city epidemiological studies have been conducted throughout the U.S. including extended analyses of studies that were important to inform decision making in the last review. These studies have reported consistent increases in morbidity and/or mortality related to ambient $PM_{2.5}$ concentrations, with the strongest evidence reported for cardiovascular-related effects. In addition, the findings of new toxicological and controlled human exposure studies provide stronger support for a number of potential biologic mechanisms or pathways for PM-related cardiovascular and respiratory effects (US EPA, 2009a, chapter 5; Figures 5-4 and 5-5). In summary, the ISA [Integrated Science Assessment] concludes, "[t]he new evidence … greatly expands upon the evidence available in the 2004 PM AQCD particularly in providing greater understanding of the underlying mechanisms for $PM_{2.5}$ induced cardiovascular and respiratory effects for both short- and long-term exposures" (US EPA, 2009a, p. 2-17).
>
> ISA concludes that the collective evidence is largely consistent with past studies and substantially strengthens what was known in the last review to reach the conclusion that a *causal* relationship exists between both long- and short-term exposures to $PM_{2.5}$ and mortality and cardiovascular effects including cardiovascular-related mortality. The ISA also concludes that the collective evidence continues to support *likely causal* associations between long- and short-term $PM_{2.5}$ exposures and respiratory effects, including respiratory-related mortality. Further, the ISA concludes that available evidence is *suggestive* of a causal relationship between long-term $PM_{2.5}$ exposures and other health effects, including developmental and reproductive effects (e.g., low birth weight) and carcinogenic, mutagenic, and genotoxic effects (e.g., lung cancer mortality).

There can be little doubt regarding the "clear and present danger" associated with $PM_{2.5}$ emissions.

C. The Plant is a Major Source of $PM_{2.5}$ in a $PM_{2.5}$ Nonattainment Area.

St. Charles County, where the Sioux plant is located, is part of the St. Louis Metropolitan Air Quality Control Region, which is designated nonattainment for the $PM_{2.5}$ NAAQS. According to DNR, AmerenUE's four Missouri coal-fired power plants, including Sioux, are the largest Missouri-based sources of $PM_{2.5}$ in the nonattainment region.

In sum, the dangers posed by CO_2 and $PM_{2.5}$ emissions are clear and present. The Sioux plant is a very large source of both pollutants. In order to abate the threat posed by the plant's emissions, and to avoid issuing a cease and desist order, DNR should set $PM_{2.5}$ and CO_2 emissions limits in the Part 70 permit.

Air Pollution Control Program Response to Public Comment:

The Title V permit has been revised to state that Ameren – Sioux is a major source of greenhouse gases (CO_2e) in the installation descriptions on the cover page and on page 5. Plantwide potential CO_2e emissions have been included within the Potential to Emit table within the Title V permit's Statement of Basis. There are no further Missouri or federal requirements for greenhouses gases applicable to the installation at this time.

The installation is a major source of $PM_{2.5}$ in an area currently designated nonattainment for $PM_{2.5}$; however, the Missouri Air Pollution Control Program has submitted three (3) years of $PM_{2.5}$ monitoring data demonstrating compliance with both the 1997 and the 2006 $PM_{2.5}$ NAAQS. Upon EPA approval the area will be redesignated an attainment maintenance area for the 1997 $PM_{2.5}$ NAAQS and an attainment area for the 2006 $PM_{2.5}$ NAAQS. There are no $PM_{2.5}$ specific regulations at this time; however, $PM_{2.5}$ is regulated within Permit Condition (B-1 and B-2) – 003 which includes a PM emission limitation for Boilers 1 and 2 under 10 CSR 10-5.030, Permit Condition (IC-1, IC-2, IC-5, and IC-6) – 002 which includes PM emission limitations for the installation's Emergency Fire Pump Engines under 40 CFR Part 60, Subpart IIII, and the Core Permit Requirements which restricts PM emissions into the ambient air under 10 CSR 10-6.170. The installation is also required to maintain and operate particulate matter control devices – Permit Condition (B-1 and B-2) -003 requires electrostatic precipitators on Boilers 1 and 2 under 40 CFR 64, Permit Condition (EP-1 through EP-4 and HR-1) – 001 requires bin vent filters on the limestone storage silos and paving of the haul road under 10 CSR 10-6.060, and Permit Condition (MH-1 through MH-4) – 001 requires wet suppression of material transfer points under 10 CSR 10-6.060. If the installation applies for a Prevention of Significant Deterioration Permit they will be required to undergo refined modeling to demonstrate that their new equipment will not cause or contribute to a $PM_{2.5}$ NAAQS violation per 40 CFR 52.21(k)(1). If any new applicable $PM_{2.5}$ emission regulations are promulgated, the operating permit shall be reopened for cause no later than 18 months after promulgation of the newly applicable requirement unless the effective date of the newly applicable requirement is later than the date on which the permit is due to expire per the requirements of §70.7(f)(1)(i).

EPA Comment:

The Sioux permit contains a limit for PM, as required by the currently approved SIP. Until such time as site specific or area-wide limits are established for PM_{10} or $PM_{2.5}$, there is no obligation for MDNR to create such limits in the Title V permit. As the comments note, should MDNR develop $PM_{2.5}$ limits, the limits will need to be directly referenced in the Title V permit. The Sioux permit also lists past emissions for $PM_{2.5}$. MDNR requires that Ameren does sufficient monitoring, recordkeeping, and reporting sufficient to ensure compliance with the limit.

Public Comment No. 12:

The Draft Permit Fails to Include the Plant's Obligation to Monitor its CO_2 Emissions.

Title V/Part 70 Permits must include all "applicable requirements," 40 CFR § 70.7(a)(iv); 10 CSR 10-6.065(6)(E)1.A.(iv), which include monitoring requirements under the Clean Air Act's Title IV Acid Rain Program. 40 CFR § 70.2 (applicable requirement definition, paragraph (5); 10 CSR 10-6.020 (applicable requirement definition, paragraph 23.E). The Title IV Acid Rain Program requires AmerenUE's Sioux plant to monitor its carbon dioxide (CO_2) emissions. 40 CFR §75.13. The Sioux plant currently uses a CO_2 continuous emissions monitoring system (CEMS) to monitor its CO_2 emissions, as evidenced by its reporting of CO_2 in the EPA's Clean Air Markets Database.

The draft permit fails to include the Sioux plant's CO_2 monitoring requirement. DNR should revise the permit to include the requirement that AmerenUE monitor its CO_2 emissions in accordance with 40 CFR §75.13.

Air Pollution Control Program Response to Public Comment:

The installation has an Acid Rain Permit which they are required to adhere to; therefore, no changes to the draft permit are necessary. This Acid Rain Permit has been included within the draft operating permit as Attachment N to demonstrate compliance with 10 CSR 10-6.270 and the requirements of 40 CFR Parts 72, 73, and 75 through 78. On page 2 of the Acid Rain Permit under Monitoring Requirements (1): "The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75."

Public Comment No. 13:

The Draft Permit Fails to Establish Case-by-Case Maximum Achievable Control Technology (MACT) Limits for the Industrial, Commercial, Institutional ("ICI") Boilers at the Plant.

The draft permit erroneously fails to set case-by-case Maximum Achievable Control Technology ("MACT") emission standards for hazardous air pollutant emissions from the auxiliary boilers, as required by Section 112(j) of the Clean Air Act, 42 U.S.C. § 7412(j).

A threshold concern is that the permit fails to explain MACT applicability to the auxiliary boilers. The draft permit (Condition (B-3) – 002) and the Statement of Basis (SB-2) suggest that the auxiliary boilers qualify as "industrial-commercial-institutional steam generating units" (also known as "ICI boilers") inasmuch as the draft permit applies New Source Performance Standards for ICI boilers to the auxiliary boilers. The draft permit, however, neither contains MACT emission standards for the hazardous air pollutant emissions from the auxiliary boilers nor justifies their absence. The Statement of Basis notes, correctly, that MACT standards for ICI boilers, which had been published at 40 CFR Part 63 Subpart DDDDD, were "vacated by court action." (SB-4) One might infer that DNR assumes that because there are no categorical MACT standards for ICI boilers, then no MACT standards apply to the Sioux plant's auxiliary boilers. It would be helpful to state that clearly, and to give an explanation for the conclusion.

In fact, DNR's apparent assumption is wrong. Section 112(j) of the Clean Air Act contains what is known as a "MACT hammer" provision. It provides that Title V permits must include MACT standards, determined on a case-by-case basis, for sources in categories where EPA fails to issue categorical standards, and that this requirement is triggered 18 months after EPA's failure to issue such categorical standards. Although EPA issued categorical MACT standards for ICI boilers, the U.S. Court of Appeals for the District of Columbia vacated – i.e., nullified – the standards. Natural Resources Defense Council v. EPA, 489 F.3d 1250 (D.C. Cir. 2007).

EPA has made clear that Clean Air Act section 112(j) means what it says. In Information Collection Requests in connection with its efforts to develop new MACT standards for ICI boilers and other categories whose MACT standards were vacated, EPA stated:

> Owners and operators of affected sources must submit Title V permit applications or amendments and comply with terms and conditions established under those permits or modifications related to case-by-case MACT.

EPA, Agency Information Collection Activities..., 72 Fed. Reg. 62226, 62227 (Nov. 2, 2007). See also EPA, Agency Information Collection Activities..., 73 Fed. Reg. 20920, 20921 (Apr. 17, 2008).

DNR must include case-by-case MACT standards governing hazardous air pollutant emissions from the Sioux plant's auxiliary boilers in the Sioux plant's Title V permit. Proposed standards should be published for public comment before being finalized.

Air Pollution Control Program Response to Public Comment:

The proposed 112j amendments would require:

- Sources to submit a case-by-case MACT application no later than 90 days after the promulgation of the proposed 112j amendments.
- The permitting authority then has 60 days to determine if the case-by-case MACT application is complete.
- After the application has been deemed complete the permitting authority has up to 18 months to issue the case-by-case MACT.

- If the federal MACT is promulgated prior to permit issuance, the source is required to meet the requirements of the federal MACT.
- If the federal MACT is not promulgated prior to the permit issuance, the source is required to comply with their case-by-case MACT. The installation has three years to achieve compliance with their case-by-case MACT, but the source is required to comply with the requirements of the federal MACT no later than 8 years after the federal MACT's promulgation date.

The EPA estimates that the proposed 112j amendment will be promulgated in January of 2011 (thus a case-by-case MACT application for the installation would not be required until April of 2011); therefore, the installation is not required to have case-by-case MACT limitations within their Title V permit at this time.

It should also be noted that EPA estimates the promulgation of the proposed rule "Emission Standards for Major Source Industrial, Commercial, and Institutional Boilers and Process Heaters" to take place in January of 2011 (if promulgation does occur in January of 2011 the installation shall be required to meet the requirements of the federal MACT and this Title V permit shall be reopened for cause per the provisions of 10 CSR 10-6.065(6)(E)6.A.(III) this reopening shall be complete no later than 18 months after the MACT promulgation date unless the effective date of the MACT is later than the date on which the permit is due to expire per the requirements of §70.7(f)(1)(i); in which case, no case-by-case MACT application need be submitted).

EPA Comment:

The Federal Register Notice for EPA 40 CFR Part 63 Proposed 112(j) amendments are available at:
http://frwebgate2.access.gpo.gov/cgi-bin/PDFgate.cgi?WAISdocID=5kzR0s/10/2/0&WAISaction=retrieve

While EPA's standards have been vacated, MDNR should be taking the necessary steps to evaluate MACT standards for process heaters and boilers. Limits are not required to be set in the permit, but MDNR should assure it is taking the necessary steps to ensure sources are compliant with Section 112(j). MDNR should include in the permit: (1) how they are planning to handle 112(j) standards for Sioux, (2) whether or not Sioux has submitted timely 112(j) applications, and (3) that the standards will be able to be added to the permit as an amendment.

Air Pollution Control Program Response to EPA Comment:

The Air Pollution Control Program cannot require the installation to submit a 112(j) application until the promulgation of the proposed 112(j) amendment (available at: http://www.epa.gov/ttn/oarpg/t3/fr_notices/112prop_032410.pdf)

The Air Pollution Control Program timeline for Sioux case-by-case Boiler MACT evaluation:

- No later than 90 days after the promulgation of the proposed 112(j) amendment, the permittee shall submit a 112(j) application. ~April 2011

- No later than 60 days after receipt of the permittee's 112(j) application, the Air Pollution Control Program shall evaluate the application for completeness. ~June 2011
- No later than 18 months after the permittee's 112(j) application has been deemed complete, the Air Pollution Control Program shall issue a case-by-case MACT for the installation. ~ December 2012
    - The federal MACT supercedes the case-by-case MACT if the federal MACT is promulgated prior to the issuance of the case-by-case MACT.
    - The case-by-case MACT does not become effective until three years after issuance. The installation is required to comply with the federal MACT rather than the case-by-case MACT no later than 8 years after the promulgation of the federal MACT.

****

The comments submitted by Kenneth J. Anderson, Managing Supervisor of Air Quality Environmental Services at Ameren Corporation shall now be addressed. The comments are addressed in the order in which they appear within the letter.

Comment No. 1:

P.1: Under "Installation Name and Address", change "AmerenUE – Sioux" to "Ameren Missouri – Sioux". Under "Installation Description" change "AmerenUE" to "Ameren Missouri". **Change all subsequent references in the permit from "AmerenUE" to "Ameren Missouri".**

Air Pollution Control Program Response to Comment:

These changes have been completed as requested.

Comment No. 2:

P.8: Either delete or add a note that the 24-hour and annual SO_2 standards in the table in Condition (B-1 and B-2) – 001 have been replaced by the new 1-hour SO_2 standard.

Air Pollution Control Program Response to Comment:

The revoked 24-hour and annual SO_2 NAAQS have been removed from the table.

Comment No. 3:

P.9; first line: Capitalize letter "c" in Method 6c to read "6C".

Air Pollution Control Program Response to Comment:

There is no reference to Method 6C on page 9; therefore, this change has not been completed as requested.

Comment No. 4:

P. 10 Condition (B-1 and B-2) -003; section 1 in "Operational Limitation"

Method 202 is cited as the required method for performing condensable PM stack testing. This method has many problems including large artifact formation as it is a wet process. For all previous testing for the Missouri EIQ's Ameren has used and has received permission from the Missouri DNR staff to use Method OTM28 in lieu of Method 202. We would prefer to use OTM28 as it does not suffer as much from the artifact problems of Method 202. We would suggest that "Method 202" wording be changed to "Method 202, OTM28 or other method as approved by the APCP".

Air Pollution Control Program Response to Comment:

The sentence in question now reads: "The permittee shall perform stack testing using Method 17 for filterable PM and Method 202 or Method OTM28 for condensable PM within one year of the effective date of this operating permit."

Comment No. 5:

P. 10 Condition (B-1 and B-2) -003; section 2 in "Operational Limitation"

The current language requires development of a revised Opacity to PM correlation similar to what is in the current draft permit. As of November 2010, Sioux Plant will be operating Wet Flue Gas Desulfurization (WFGD) systems to reduce SO_2 emissions. This will necessitate a change in how CAM is developed. We suggest that the 2nd sentence in this section be revised to:

"The significant modification application shall include stack testing results and a new PM (both filterable and condensable) correlation based on precipitator (Opacity) and Wet Flue Gas Desulfurization system operation along with proposed conditions for excursions and exceedances."

Air Pollution Control Program Response to Comment:

This section has already been revised in response to EPA's Comment on Washington University's 3rd Public Comment.

Comment No. 6:

P.12, condition 6 under "Monitoring": Capitalize the "p" in "Part 70" permit.

Air Pollution Control Program Response to Comment:

This change has been completed as requested.

Comment No. 7:

P.16; Condition (B-1 and B-2) – 008; section 1 in "Recordkeeping": We would revise Attachment F to record daily CEMs SO_2 lbs/mmBtu and Pet Coke throughput. Please reword sentence 3 as follows:

"The permittee shall use Attachment F, or an equivalent form generated by the permittee that has been submitted and approved by the APCP to track daily SO_2 lbs/mmBtu and Pet Coke throughput."

Air Pollution Control Program Response to Comment:

This change has been completed as requested.

Comment No. 8:

P.17, line 2: Correct the spelling error "Storage Done" to read "Storage Dome".

Air Pollution Control Program Response to Comment:

This change has been completed as requested.

Comment No. 9:

P.17; Condition (EP-1 through EP-4) – 002; section 3 in "Monitoring" should be revised as follows:

"If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency."

Air Pollution Control Program Response to Comment:

This change has been completed as requested.

Comment No. 10:

P.18; Condition (HR-1) – 002; section 3 in "Monitoring" should be revised as follows:

"If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency."

Air Pollution Control Program Response to Comment:

This change has been completed as requested.

Comment No. 11:

P.19; Condition (HR-1) – 002; section 4(b)(ii) in "Monitoring". The condition below is largely duplicative of the requirements stated in 4(b)(i) and could be deleted from the permit:

"The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating."

Air Pollution Control Program Response to Comment:

This condition has been removed as requested.

Comment No. 12:

P.19; Condition (HR-1) – 002; section 4(c)(iii) in "Monitoring". The condition as stated below is an incomplete sentence and could be revised as follows to be more understandable to the reader:

Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating is reason to suspend water spray applications on the date of occurrence.

Air Pollution Control Program Response to Comment:

This condition has been revised as requested.

Comment No. 13:

P.19; Condition (HR-1) – 002; section 4(c)(v) in "Monitoring". The first sentence of this condition:

"The operator(s) shall record the date and the amount of water applied for each application on the above areas." is duplicative of the language in 4(c)(ii) and could be deleted from the permit.

APCP Response to Comment:

This sentence has been removed as requested.

Comment No. 14:

P. 20: In the emission unit description for the auxiliary boiler (B-3) please include (Design Rating) after 162 mmBtu/hr.

Air Pollution Control Program Response to Comment:

The description has been revised as requested.

Comment No. 15:

P.24: Either delete or add a note that the 24-hour and annual SO_2 standards in the table in Condition (B-5A, B-5B and B-5C) – 002 have been replaced by the new 1-hour SO_2 standard.

Air Pollution Control Program Response to Comment:

The revoked 24-hour and annual SO_2 NAAQS have been removed from the table.

Comment No. 16:

P.25: Either delete or add a note that the 24-hour and annual SO_2 standards in the table in Condition (IC-1, IC-2, IC-5 and IC-6) – 001 have been replaced by the new 1-hour SO_2 standard.

Air Pollution Control Program Response to Comment:

The revoked 24-hour and annual SO_2 NAAQS have been removed from the table.

Comment No. 17:

P.29; Condition (M-1 through M-5) – 001; section 2(d) in "Monitoring" should be revised as follows:

If, at the issuance of this permit, the permittee has progressed in the schedule listed in 2(a) – (c) the permittee may continue to advance accordingly or maintain observations as prescribed in 2(c).

Air Pollution Control Program Response to Comment:

This condition has been revised as requested.

Comment No. 18:

P.29; Condition (M-1 through M-5) – 001; section 3 in "Monitoring" should be revised as follows:

"If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency."

Air Pollution Control Program Response to Comment:

This condition has been revised as requested.

Comment No. 19:

P.29; Condition (M-1 through M-5) – 001; section 4(b)(ii) in "Monitoring". The condition below is largely duplicative of the requirements stated in 4(b)(i) and could be deleted from the permit:

"The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating."

Air Pollution Control Program Response to Comment:

This condition has been removed as requested.

Comment No. 20:

P.29; Condition (M-1 through M-5) – 001; section 4(c)(iii) in "Monitoring". The condition as stated below is an incomplete sentence and could be revised as follows to be more understandable to the reader:

Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating is reason to suspend water spray applications on the date of occurrence.

Air Pollution Control Program Response to Comment:

This condition has been revised as requested.

Comment No. 21:

P.37; "Core Permit Requirements"; in Open Burning Requirements, condition (4): Please revise "AmerenUE – Sioux" to "Ameren Missouri – Sioux".

Air Pollution Control Program Response to Comment:

This revision has been completed as requested.

Comment No. 22:

P.49, "General Permit Requirements"; in Responsible Official: Please revise "AmerenUE – Sioux Power Plant" to "Ameren Missouri – Sioux Power Plant".

Air Pollution Control Program Response to Comment:

This revision has been completed as requested.

Comment No. 23:

P.55, Attachment E: Please revise "AmerenUE – Sioux Plant" to "Ameren Missouri – Sioux Plant".

Air Pollution Control Program Response to Comment:

This revision has been completed as requested.

Comment No. 24:

P.56, Attachment F: Please revise the title of Attachment F to:

Daily SO_2 Emissions (lbs per mmBtu) Tracking Record
Ameren Missouri, Sioux Power Plant; Installation ID No: 183-0001

Air Pollution Control Program Response to Comment:

This revision has been completed as requested.

Comment No. 25:

Attachment F could be simplified with a table containing three columns – one listing the date of Pet Coke burning, the second column containing the Pet Coke throughput and the third column the daily average SO_2 emissions in lbs/mmBtu.

Air Pollution Control Program Response to Comment:

Attachment F contained the additional columns as Construction Permit No. 1198-011 required the pounds of SO_2 per mmBtu to be calculated based upon the actual heat input ratio of coal to petroleum coke. Boilers 1 and 2 are limited to 4.73 lbs SO_2 per mmBtu based upon a daily average while burning petroleum coke by Construction Permit No. 1198-011 and to 4.8 lbs SO_2 per mmBtu based upon a daily average while combusting fuel. As the 4.73 lbs/mmBtu limit is more stringent than the 4.8 lbs/mmBtu, Attachment F is being simplified as requested. On days that the boilers combust petroleum coke the boilers are subject to the 4.73 lbs/mmBtu standard, on all other days the boilers are subject to the 4.8 lbs/mmBtu standard.

Comment No. 26:

Please revise the plant designation in the letter to Mr. Menne and in the MDNR Folder Transmittal Routing Sheet to "Ameren Missouri – Sioux".

Air Pollution Control Program Response to Comment:

This revision has been completed as requested.

ALR/kjc