

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In re: Union Electric Company's 2014)	
Utility Resource Filing Pursuant to)	Case No. EO-2015-0084
4 CSR 240 – Chapter 22)	

SIERRA CLUB RESPONSE TO AMEREN MISSOURI'S SUPPLEMENTAL FILING

Sierra Club, by and through counsel, hereby submits the attached comments on Ameren Missouri's ("Ameren" or the "Company") 2014 Integrated Resource Plan ("IRP") Supplemental Filing ("Supplemental Filing").

In its initial IRP comments filed on March 2, 2015, Sierra Club noted that Ameren failed to describe and document why it assumes that flue gas desulfurization ("FGD") technology will not be required at two of the four units at its Labadie plant and both units at its Rush Island plant, as well as why the Company's thinking had changed since its 2011 IRP when FGD technology was assumed to be required at all of those units under both "moderate" and "aggressive" environmental scenarios.¹ The Company also failed to describe and document its assumption that selective catalytic reduction ("SCR") technology will be required at Sioux in 2020 but not at any of the units at Labadie and Rush Island. As part of this docket's Joint Agreement filed on May 1, 2015, Ameren agreed to discuss, in a supplemental filing, its consideration of the need for FGD and SCR retrofits for its existing coal-fired generating units.

Sierra Club appreciates Ameren's Supplemental Filing, as it makes an effort to "describe and document," pursuant to 4 CSR 240-22.040(2)(B), the Company's underlying assumptions regarding the necessity of future FGD and SCR controls on its coal-fired units. Unfortunately, Ameren failed to adequately assess the impacts of the existing sulfur dioxide ("SO₂") and forthcoming ozone National Ambient Air Quality Standards ("NAAQS"). For instance, as discussed below, Ameren has completely neglected to discuss—in four filings over the past three years—that the area in which Rush Island resides was first proposed to be, and now is, designated as a one-hour SO₂ NAAQS nonattainment area. This is a glaring omission, particularly since Sierra Club mentioned this point in its initial comments.² For this and other reasons described herein, Ameren Missouri's IRP remains deficient and in violation of 4 CSR 240-22.040.³

¹ Case No. EO-2011-0271, Dkt. No. 3, Ameren 2011 IRP, Chapter 8, p.20, Table 8.3.

² Case No. EO-2015-0084, Dkt. No. 45, cover letter at 2.

³ See, e.g., 4 CSR 240-22.040(1): "The utility shall collect generic cost and performance information sufficient to fairly analyze and compare each of these potential supply-side resource options, including at least those attributes needed to assess capital cost, fixed and variable operation and maintenance costs, probable environmental costs, and operating characteristics." 4 CSR 240-22.040(2)(B) further explains: "The probable environmental costs of each potential supply-side resource option shall be quantified by estimating the cost to the utility to comply with additional environmental legal mandates that may be imposed at some point within the planning horizon. The utility shall identify a list of environmental

Sulfur Dioxide and FGDs

In June 2010, EPA finalized a revision of the primary SO₂ NAAQS, establishing a new one-hour standard of 75 parts per billion (“ppb”).⁴ After years of consultation with—and explicit direction from—the Missouri Department of Natural Resources (“MDNR”),⁵ EPA finalized SO₂ NAAQS nonattainment designations for certain areas of Missouri and other states in August 2013.⁶ EPA’s 2013 designations incorporated MDNR’s 2011 recommendation that a portion of Jefferson County in which Ameren’s Rush Island power plant resides be designated as nonattainment.⁷ A nonattainment designation triggers a deadline for the state to submit a plan to EPA⁸ for approval that “shall provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the [NAAQS].”⁹ For coal-fired generating units such as Rush Island that contribute to SO₂ NAAQS nonattainment, this “reasonably available control technology,” or “RACT,”¹⁰ generally takes the form of FGD controls.¹¹

Ameren has been on notice since 2011 that the region in which Rush Island resides could be—and then, in 2013, was—designated as nonattainment. Ameren’s 2014 IRP notes that a portion of Jefferson County was designated as nonattainment, yet Ameren failed to mention that

pollutants for which, in the judgment of the utility decision-makers, legal mandates may be imposed during the planning horizon which would result in compliance costs that could significantly impact utility rates. The utility shall specify a subjective probability that represents utility decision-maker’s judgment of the likelihood that legal mandates requiring additional levels of mitigation will be imposed at some point within the planning horizon. The utility, based on these probabilities, shall calculate an expected mitigation cost for each identified pollutant.”

⁴ See Primary National Ambient Air Quality Standard for Sulfur Dioxide Final Rule, 75 Fed. Reg. 35,520, 35,525 (June 22, 2010). This replaced the prior standard, which was 140 ppb averaged over twenty-four hours, and 30 ppb averaged over one year. See EPA, Sulfur Dioxide Primary Standards—Table of Historical SO₂ NAAQS, available at http://www.epa.gov/ttn/naaqs/standards/so2/s_so2_history.html.

⁵ See MDNR, 2010 1-Hour Sulfur Dioxide Boundary Recommendation, available at <http://dnr.mo.gov/env/apcp/docs/2010-SO2-Boundary-Recommendation.pdf>.

⁶ Pursuant to a federal court order, other areas of Missouri, including Franklin County—home to Labadie—are scheduled to be designated by July 2, 2016. See EPA, Area Designations for the 2010 SO₂ National Ambient Air Quality Standard to be Completed by July 2, 2016, available at <http://www.epa.gov/airquality/sulfurdioxide/designations/pdfs/sourceareas.pdf>

⁷ 78 Fed. Reg. 47191 (Aug. 5, 2013) (effective Oct. 4, 2013).

⁸ EPA has indicated that the state’s plan is fundamentally flawed, and the agency is currently reviewing it. See, e.g., *State submits Jefferson County air cleanup over EPA objections*, STL Post-Dispatch, May 28, 2015, available at http://www.stltoday.com/business/local/state-submits-jefferson-county-air-cleanup-over-epa-objections/article_4202938e-ad31-57dd-a8b0-f1862bf57667.html.

⁹ 42 U.S.C. 7502(c)(1).

¹⁰ RACT is defined by EPA as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” 44 Fed. Reg. 53,726 (1979).

¹¹ As of 2013, 56% of coal units, representing 70% of coal capacity and 72% of coal energy generation in the United States, had installed FGDs. EPA, Sulfur Dioxide Controls for 2013 ARP Coal Units, available at http://www.epa.gov/airmarkets/documents/datatrends/CoalUnitCharacteristics2013_summary.pdf.

Rush Island was directly affected.¹² With the closure of the Doe Run smelter in Herculaneum, Rush Island is now the largest source of SO₂ in Jefferson County.¹³ Indeed, the Company's 2012 and 2013 IRP updates, as well as its 2014 IRP and now its Supplemental Filing, all fail to mention the nonattainment possibility or designation affecting Rush Island, nor how Ameren would contend with subsequently controlling Rush Island's SO₂ emissions. Ameren's unsupported assumption that Rush Island will not require FGD controls despite residing in an SO₂ NAAQS nonattainment area means that Ameren is simultaneously ignoring the likely possibility that it will either have to retire some or all of the Rush Island generating units or make hundreds of millions of dollars of additional pollution control expenditures that are not currently accounted for in its IRP to bring Rush Island into compliance.

Ameren has had three years and four filings to address this issue. Rush Island's residence in a nonattainment area requires more than just a modest change in Ameren's assumptions¹⁴—it likely requires an FGD system that “would result in compliance costs that could significantly impact utility rates”¹⁵ or that could compel the conclusion that ratepayers would be better off if Rush Island were retired and replaced with lower cost energy resources. This glaring omission drastically affects Ameren's modeling assumptions, rendering Ameren's 2014 IRP fundamentally deficient under 4 CSR 240-22.040.¹⁶

Ozone & SCR

Ozone formation is a complex process involving a reaction of nitrogen oxides (“NO_x”) and volatile organic compounds (“VOCs”) with heat and sunlight. Because most NO_x emissions derive from coal-fired power plants and mobile sources, NO_x controls tend to target these two sources. Controls for NO_x include SCR, non-selective catalytic reduction (“SCNR”) and other technologies. In March 2008, EPA updated the 1997 8-hour ozone standard from 84 ppb to 75 ppb.¹⁷ Now, pursuant to a court order, EPA must update its 2008 ozone NAAQS by October 1, 2015,¹⁸ and EPA has proposed lowering the 75 ppb primary ozone standard to between 65 ppb and 70 ppb.¹⁹

Sierra Club, in its initial IRP comments, noted that Ameren failed to describe and document why it assumes that its Sioux plant will require a SCR in 2020, but neither its Labadie

¹² Case No. EO-2015-0084, Dkt. No. 1, Chapter 5 at 8.

¹³ See, e.g., MDNR, 2010 1-Hour Sulfur Dioxide Boundary Recommendation at pp. 11-12., available at <http://dnr.mo.gov/env/apcp/docs/2010-SO2-Boundary-Recommendation.pdf>.

¹⁴ On p. 3 of its Supplemental Filing, Ameren noted that its assumptions have “evolved modestly” since 2011.

¹⁵ 4 CSR 240-22.040(1).

¹⁶ In addition, Ameren states in its Supplemental Filing that its assumption that FGD units will be added at two of its Labadie units, while “ultra-low sulfur” coal will be burned at the other two, will be sufficient to comply with both Cross-State Air Pollution Rule requirements and any future requirements to ensure that Franklin County is in attainment with the 1-hour SO₂ NAAQS. These are conclusory statements, however, that are not supported with any analysis, such as modeling, showing that FGDs will not be required on two of the Labadie units.

¹⁷ 73 Fed. Reg. 16,436 (Mar. 27, 2008).

¹⁸ Order, *Sierra Club v. EPA*, No. 13-CV-2809 (N.D. Cal. Apr. 30, 2014).

¹⁹ 79 Fed. Reg. 75,234 (Dec. 17, 2014).

nor its Rush Island units would require the same.²⁰ Ameren's Supplemental Filing discusses its power plants' NOx rates—but this only tells part of the story. Nonattainment designations are based upon concentrations of air pollution in the ambient air, measured in terms of a “design value.”²¹ St. Charles County, which hosts the Sioux plant, had a 2011-2013 design value of 82 ppb²²—well above the existing standard. This design value dropped to 78 ppb between 2012 and 2014.²³ Although Ameren did not explicitly state its assumptions, one can surmise why the Company assumes Sioux will need an SCR to meet both the existing 75 ppb standard as well as any tightening of the standard. This deduction runs contrary to the IRP rules, however, as it is Ameren's obligation—not stakeholders—to “describe and document” the Company's analysis of supply-side resource options and the potential need for additional environmental controls.²⁴ Critically, Ameren fails to explain its ozone NAAQS assumptions for both Rush Island and Labadie. Rush Island resides in Jefferson County, which has a 2011-2013 design value of 76 ppb, and a 2012-2014 design value of 75 ppb²⁵—both of which meet or exceed the existing NAAQS, and both of which likely exceed the forthcoming 2015 ozone NAAQS. Labadie resides in Franklin County, which does not have an ozone monitor. Still, MDNR has previously recommended that Franklin County be designated as nonattainment based on its contributions to nearby, violating ozone monitors.²⁶ It is Ameren's obligation, pursuant to the Commission's IRP rules, to review probable environmental costs associated with its generation resources,²⁷ and in failing to evaluate the risks that these generating units will require additional pollution control expenditure to comply with current and forth coming ozone NAAQS, Ameren's 2014 IRP is clearly deficient.

Ameren's Supplemental Filing fundamentally fails to address the aforementioned concerns, rendering the Company's IRP deficient under 4 CSR 240-22.040(2)(B). Accordingly, Sierra Club respectfully renews its request that the Company agree to prepare, or the Commission order the Company to prepare, a revised triennial IRP filing that corrects the deficiencies identified above and in Sierra Club's comments filed on March 2, 2015.

Respectfully submitted,

[Signature Page and Certificate of Service follow]

²⁰ Case No. EO-2015-0084, Dkt. No. 45, cover letter at 2.

²¹ A design value is a statistic that describes the air quality status of a given location relative to the level of the NAAQS. 79 Fed. Reg. at 75,242, n. 11.

²² MDNR, Air Quality Analysis for Ozone, *available at* <http://dnr.mo.gov/env/apcp/docs/ozonemonitordata.pdf>.

²³ *Id.*

²⁴ 4 CSR 240-22.040(2).

²⁵ MDNR, Air Quality Analysis for Ozone, *available at* <http://dnr.mo.gov/env/apcp/docs/ozonemonitordata.pdf>.

²⁶ *See, e.g.,* MDNR, Summary for Revised Missouri Recommendation, *available at* <http://dnr.mo.gov/env/apcp/ozone/morecsummary-08.pdf>.

²⁷ 4 CSR 240-22.040(2)(B)

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct PDF version of the foregoing was filed on EFIS and electronically mailed to all counsel of record on this 12th day of June, 2015.

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