BEFORE THE PUBLIC SERVICE COMMISSION
STATE OF MISSOURI

In the Matter of an Investigation Into An Incident in December 2005 at the Taum Sauk Pumped Storage Project Owned and Operated by the Union Electric Company, doing business as AmerenUE.	))))))	**Case No. ES-2007-_____**

STAFF'S MOTION TO OPEN AN INVESTIGATION INTO THE TAUM SAUK INCIDENT

COMES NOW the Staff of the Missouri Public Service Commission, by and through the Commission's General Counsel, pursuant to §§ 386.071 and 386.390.1, RSMo 2000, and Commission Rule 4 CSR 240-2.070(1), and for its Motion to Open an Investigation, states as follows:

Introduction:

1. This matter concerns the circumstances of the collapse of the Upper Reservoir Dam at the Taum Sauk Pumped Storage Project on the night of December 14-15, 2005.

Parties:

2. Movant is the Staff of the Missouri Public Service Commission, acting through the Commission's General Counsel as authorized by § 386.071, RSMo 2000, and Commission Rule 4 CSR 240-2.070(1). The Commission is authorized to investigate and inquire concerning the safety and adequacy of utility operations, practices, installations, and facilities, and to establish a case for the purpose of receiving information from public utilities under its jurisdiction

pursuant to §§ 386.250, 386.310, and 393.140, (1)-(3), (5), (9) and (10), RSMo. 2000, and § 393.130.1, RSMo Supp. 2006.

3. Union Electric Company, which does business as AmerenUE ("UE"), is a traditional, vertically-integrated electric and natural gas utility that serves some 1.2 million electric customers and 125,000 natural gas customers in the state of Missouri. UE is wholly-owned by Ameren Corporation, a publicly-traded utility holding company which also owns three other operating electric utilities in the state of Illinois,[1] as well as other subsidiaries engaged in the generation of electricity and other activities. *Ameren Corporate Facts, Ameren website.*

4. The Public Counsel is appointed by the Director of the Missouri Department of Economic Development and is authorized under §§ 386.700 and 386.710, RSMo 2000, to "represent and protect the interests of the public in any proceeding before or appeal from the public service commission[.]"

Jurisdiction:

5. UE is an "electrical corporation," a "gas corporation," and a "public utility" within the intendments of § 386.020, (15), (18) and (42), RSMo Supp. 2006, and is thus subject to the "jurisdiction, control and regulation" of this Commission.

6. Section 393.130.1, RSMo Supp. 2006, requires that "[e]very gas corporation [and] every electrical corporation . . . shall furnish and provide such service instrumentalities and facilities as shall be safe and adequate and in all respects just and reasonable. Likewise, pursuant to § 386.310.1, RSMo 2000,

[1] AmerenCILCO, AmerenCIPS and AmerenIP.

the Commission is authorized and required to provide for the safety of the public with respect to utility operations:

> The commission shall have power, after a hearing had upon its own motion or upon complaint, by general or special orders, rules or regulations, or otherwise, to require every person, corporation, municipal gas system and public utility to maintain and operate its line, plant, system, equipment, apparatus, and premises in such manner as to promote and safeguard the health and safety of its employees, customers, and the public, and to this end to prescribe, among other things, the installation, use, maintenance and operation of appropriate safety and other devices or appliances, to establish uniform or other standards of equipment, and to require the performance of any other act which the health or safety of its employees, customers or the public may demand, including the power to minimize retail distribution electric line duplication for the sole purpose of providing for the safety of employees and the general public in those cases when, upon complaint, the commission finds that a proposed retail distribution electric line cannot be constructed in compliance with commission safety rules. The commission may waive the requirements for notice and hearing and provide for expeditious issuance of an order in any case in which the commission determines that the failure to do so would result in the likelihood of imminent threat of serious harm to life or property, provided that the commission shall include in such an order an opportunity for hearing as soon as practicable after the issuance of such order.

7. The Missouri Supreme Court has held that the Commission has "plenary power to coerce a public utility corporation into a safe and adequate service*." State ex rel. Missouri Southern R. Co. v. Public Service Commission,* 259 Mo. 704, ___, 168 S.W. 1156, 1163 (banc 1914).

The Taum Sauk Incident:

8. Among UE's activities is the operation of at least 15 electric generating stations,[2] one of which is the Taum Sauk Pumped Storage Project ("Taum

[2] Including the Labadie, Meramec, Rush Island, and Sioux base-load, coal-fired plants, the Callaway Nuclear Plant, the oil or natural gas combustion turbine plants at Audrain, Goose Creek, Kinmundy, Peno Creek, Pinckneyville, Racoon Creek, and Venice, and the hydroelectric plants at

Sauk"), located in Reynolds County, Missouri, on the East Fork of the Black River approximately 90 miles southwest of St. Louis, Missouri. Taum Sauk is a reversible pumped storage project used to supplement the generation and transmission facilities of UE, and consists basically of a mountain ridge top upper reservoir, a shaft and tunnel conduit, a 450-MW, two-unit pump turbine, motor-generator plant, and a lower reservoir. Both the upper reservoir and the lower reservoir at Taum Sauk are created by dams. It was the first of the large capacity pumped-storage stations to begin operation in the United States. *Federal Energy Regulatory Commission ("FERC') Staff Report* (April 28, 2006), p. 9.

9. The Taum Sauk Project is a hydroelectric station licensed and regulated by the Federal Energy Regulatory Commission ("FERC") under the Federal Power Act, *codified at* 16 U.S.C. § 792 *et seq.*; *and see Federal Power Commission v. Union Electric Co.,* 381 U.S. 90, 85 S.Ct. 1253, 14 L.Ed.2d 239 (1965).

10. On December 14, 2005, at approximately 5:20 AM CST, the northwest corner of the Taum Sauk upper reservoir rim dike failed, resulting in a release of the upper reservoir. The reservoir drained in about 30 minutes. Approximately 4,300 acre-feet of storage – 1.3 billion gallons of water -- was released. The breach flow passed into East Fork of Black River (the river upstream of the lower Taum Sauk Dam) through Johnson's Shut-Ins State Park and then into the lower reservoir. The Lower Taum Sauk Dam did not sustain damage. Below the

---

Keokuk, Lake of the Ozarks, and Taum Sauk. The net generating capacity of the Ameren companies, including Ameren's 80% share of the EEI plant at Joppa, Illinois, exceeds 16,200 megawatts. *Ameren Corporate Facts, Ameren website.*

Lower Taum Sauk Dam, the high flows proceeded down the Black River to the town of Lesterville, Missouri. The incremental rise in the river level was about 2 feet which remained within the banks of the river. *FERC Staff Report,* p. 7. Today, almost 18 months after the Taum Sauk incident, Johnson's Shut-Ins State Park is closed for reconstruction. *DNR website,* 6-7-07.

11. The damage to the Johnson's Shut-Ins State Park, operated by the Missouri Department of Natural Resources ("DNR"), was extensive. The breach flows destroyed the home of the Johnson's Shut-Ins State Park superintendent, flooded motorists on Highway N, and significantly damaged the park, campground, and adjacent properties. The park superintendent's children were hospitalized following the breach. In addition to destroying the superintendent's house, the flood damaged the park water system and the boardwalk to the shut-ins. Trees stripped from the hillside were piled 15-feet high and sand and clay up to eight feet deep covered much of the area. The breach waters scoured a hole at the base of the mountain and displaced boulders dammed the East Fork and created a six-acre lake. 15,000 truckloads of debris were removed from the park. Redevelopment of the park is expected to be complete in 2008. *Division of State Parks 2006 Year-End Summary, DNR website.*

Investigations:

12. UE retained an expert consultant, Paul C. Rizzo, Ph.D., P.E., to investigate the Taum Sauk incident and he issued his report on April 7, 2006. This report is available on the FERC website. UE's consultant reached these conclusions:

> It is our conclusion that the **root cause** of "***the uncontrolled, rapid release of water from the Upper Reservoir"*** was the breach of the Rockfill Dike—a stability failure at the northwest corner of the Reservoir brought on by a rapid increase in the pore pressure at the Dike/foundation interface, stemming from the original design and construction which was flawed.

Rizzo Report, p. 130 (emphasis in original).

> The design and specification of the instrumentation and control systems were inadequate from a dam safety perspective. Furthermore, an inadequate initial design for the instrumentation supports led to field changes which led to the failure of the supports and errant readings of the water level in the Upper Reservoir. Additionally, the misplacement of HI and HI-HI Probes, as a result of human error, effectively disabled the as-designed level protection. These three items combined to allow the overtopping of the reservoir during the pump back cycle on the morning of December 14, 2005. Specific conclusions with respect to the Barrier Analysis are listed below.
>
> --Design and specification of the instrumentation system was not sufficiently conservative. Had the protection probes been maintained at the design elevations, the overtopping event may not have occurred.
>
> --Even given the loss of the level protection, overtopping still could have been prevented had the level control instrumentation supports not failed.
>
> --Based on our judgment, plant operators and technicians were following operational and inspection procedures as provided by AmerenUE. However, we note that operator training in terms of dam safety was inadequate.
>
> --Operation of the Upper Reservoir in terms of dam safety including maintaining the necessary freeboard was not adequately understood within the AmerenUE Organization.
>
> --Responsibilities for plant operation and dam safety were combined under a single individual. Anyone with this job description may have to potentially balance dam safety and operational constraints.
>
> --Adequate design quality assurance was not followed by AmerenUE and their consultants. Consultants and

> engineers, including software suppliers, should have followed an ANSI qualified program. This would include documentation of the intent of a design and would also require checks and verifications before making any changes to final design.
>
> It is our overall conclusion that instrumentation failure and human error constitute primary and secondary contributing causes respectively to the Event. If AmerenUE elects to rebuild the Upper Reservoir, operational procedures and training in dam safety should be implemented. Also, consideration should be given to separating dam safety responsibility and operational responsibility.

Rizzo Report, pp. 125-126.

13. The FERC Staff conducted an investigation into the Taum Sauk incident and issued its report on April 28, 2006. This report is available on the FERC website. The FERC Staff investigation reached the following conclusions:

> 1. The project had historically operated with a minimum of two feet of freeboard on the lowest section of the parapet wall. Following installation of a geomembrane liner in 2004, AmerenUE operated the project to fill the upper reservoir within one foot of the lowest section of the parapet wall. Post breach evidence shows the reservoir may have been routinely filled to within 0.25 foot of the lowest section of the parapet wall.
>
> 2. The December 14, 2005 breach was preceded by significant wave overtopping that occurred on September 25, 2005. Factors involved with this event were waves due to winds from the remnants of Hurricane Rita combined with a reservoir level pumped to within 0.4 foot of the top of the parapet wall.
>
> 3. On September 27, 2005, AmerenUE adjusted the reservoir control programming to account for the difference between the actual reservoir levels and the readings from the reservoir level instrumentation.
>
> 4. On October 3-4, 2005, AmerenUE personnel discovered that the conduit which housed the instrumentation for monitoring reservoir levels was not properly secured to the dam. Deterioration of the instrumentation tie-down allowed the conduits to move adversely impacting the reservoir level readings. The instrumentation readings showed reservoir levels that were lower

than actual levels. As a safety measure, AmerenUE adjusted the reservoir level control programming to shut down the pumps when the instruments showed the reservoir levels were two feet lower than normal settings.

5. Two Warrick Conductivity Sensors were used as a safety system for shutting down the units in case of high water levels. The sensors would send a signal to shut down the units when they became wet. The sensors were physically relocated to a height that was higher than the lowest point on the parapet wall. Therefore, if the Warrick Sensors were contacted by water, the Upper Dam would already be in an "overtopping" condition.

6. Modifications made to the reservoir control programming adversely affected how the signals from the Warrick Sensors were managed and reported. The modifications required that both sensors make contact with water to initiate shutdown. This removed a layer of redundancy to the safety system.

FERC Staff Report, pp. 7-8.

14. FERC also retained an independent panel of consultants ("IPOC") to investigate the Taum Sauk incident and the panel issued its report on May 25, 2006. This report is available on the FERC website. The panel reached these conclusions:

It is the Panel's opinion that the cause of the December 14, 2005 failure was overtopping of the parapet wall and embankment. The possible modes of failure for the breach event of this dam and the factors which made this dam especially vulnerable and sensitive to overtopping have been discussed in Section 7.

Although this dam and parapet wall combined to give [sic] an embankment more vulnerable and sensitive to overtopping than most embankment dams it is the opinion of this Panel that the primary root causes of failure on this particular date were those factors which caused the overtopping to occur. The secondary root causes or contributing factors are those factors which combined to make this embankment more vulnerable to failure by overtopping.

A summary of primary root causes is given below. These factors contributed to the fact that overtopping occurred.

• The pressure transducers that monitored reservoir water levels became unattached from their supports causing erroneous water level readings.

After these transducers became loose from their supports, their position heads changed and the reservoir levels indicated in the PLC system gave reservoir levels lower than the actual reservoir levels. The fact that the new system installed in 2004 did not consist of a structural support system anchored to the face slab enabled this mode of instrument failure to occur. As constructed it was inferior to all of the water level measuring systems used on the Project between 1963 and 2004.

• The emergency backup level probes were set at an elevation above the lowest points along the parapet wall; thus, they failed their protection role because this enabled overtopping to occur before the probes could trigger shutdown.

These probes were a good conceptual second line of defense. However, the Hi-Hi Warrick Probe had to be in contact with the reservoir water for 60 seconds in order to trip off the last pumping unit. The Hi-Hi Warrick Probe unfortunately was set at Elev. 1597.7 at Panel 58 where the top of the parapet wall was at 1598.0 It did not apparently occur to those setting this probe that there were 33 wall panels with their tops lower than the Hi-Hi probe with the lowest one (Panel 72) having a top at Elev. 1597.0 Thus the emergency backup system was effectively eliminated by this error of setting the Warrick Probe at an elevation which would allow considerable overtopping, if the main system would fail.

• The normal operating high water levels of 1 ft. below the top of the parapet wall was too near the top of the wall to allow for any mistakes of mis-operation.

This low free board was not realistic for the system adopted for monitoring water levels in 2004. A more rigorous study of the potential errors in the measurements should have been made before adopting this low free board which required such a high accuracy from this system. The adoption of this 1

ft. free board was totally inconsistent with having personnel making key design and installation decisions who were not even aware of the lowest elevation of the parapet wall within the nearest 1 ft.

• Visual monitoring of the Upper Reservoir water levels was almost nonexistent and there was no systematic “ground–proofing” recorded of the relationship of the top of the wall and associated water levels actually being achieved.

• There was no overflow spillway to safely carry accidental over-pumped water downstream and below the dam. The omission of a spillway from the design was a most important root cause of this failure. If a spillway had been constructed with a capacity of the two pumping units, an overtopping failure would not have occurred.

A bullet point for a secondary root cause of the December 14, 2005 breach is given below with detailed explanation.

• The marginally stable dumped “dirty” rockfill embankment and associated parapet wall atop the dam, constituted an unforgiving containment structure. It could not tolerate the additional pore pressures and erosive effects of the overtopping water plunging over the top of the parapet wall onto the narrow dam crest and cascading down the steep 1.3:1 slope.

The steep dumped rockfill slopes composed of rockfill with as much as 20% fines and 45% sand sizes and smaller, make this dam especially sensitive to erosion due to overtopping and also conducive to increases in pore pressures during overtopping because it is not free draining. Storing water against a 10 ft. high parapet wall founded on the dam crest is also a feature which makes this dam vulnerable to overtopping because the overflowing water impinges on the dam crest at a velocity of 25 ft./sec. which enhances erosion and makes a large release of erosive energy possible, should the erosion at the downstream footing of the wall allow tipping or sliding of the wall. As indicated in previous sections of this report there were plenty of indications, earlier in the history of this dam, that there was “dirty” rockfill in portions of this dam and much of the repairs as well as comments in writing were directed to the area of

the dam that breached between Panels 88 and 99.

IPOC Report, pp. 35-36.

15. DNR's Water Resources Center, Dam and Reservoir Safety Program, also conducted an investigation into the Taum Sauk incident. DNR reported its findings in a Power Point presentation narrated by Chief Engineer James L. Alexander. DNR concluded that UE was at fault in the Taum Sauk incident in several respects. Governor Blunt specifically cited the results of the DNR investigation when he requested Attorney General Nixon to pursue civil and criminal actions against UE and its responsible employees in relation to the Taum Sauk incident. *Jefferson City News Tribune,* January 17, 2006 (*News Tribune website*).

16. The Missouri State Highway Patrol also conducted an investigation of the Taum Sauk incident in order to determine whether any criminal conduct had occurred. The Highway Patrol investigation did not reveal a suspect or suspects for criminal prosecution. After reviewing this report, Attorney General Nixon announced that he would not pursue any criminal charges in relation to the Taum Sauk incident. *Attorney General's website, News Release* May 18, 2007.

Legal Actions:

17. On October 2, 2006, the FERC approved a Stipulation and Consent Agreement between UE and the FERC Office of Enforcement. *In the Matter of AmerenUE,* Project No. 2277 (*Order Approving Stipulation and Consent Agreement,* issued October 2, 2006) (*"FERC Order"*). The Order listed a number of alleged violations by UE of both FERC regulations and specific conditions of

the Taum Sauk license, *FERC Order,* ¶¶ 7-10, however, UE did not admit any of them. *Id.,* ¶ 11. In resolution of the charges, UE agreed to pay a $10 million civil penalty to the United States and to place a further $5 million into escrow to fund "enhancements at or in the vicinity of the Taum Sauk project." *Id.,* ¶ 12.

18. On December 13, 2006, the Attorney General of Missouri filed a civil suit against UE in the Circuit Court of St. Louis City, Missouri, Case No. 0622-CC07160, seeking costs and expenses, damages under various theories of relief, penalties, and punitive damages "for its complete indifference to or conscious disregard for the safety of others." *State of Missouri v. Union Electric Co.,* Case No. 0622-CC07160 (07RE-CC00005 *after change of venue*) (*Petition,* filed December 13, 2006) p. 17. That action, since moved to the Circuit Court of Reynolds County, Missouri, and now numbered 07RE-CC00005, is still pending.

Public Service Commission Involvement:

19. Staff states that it has informally monitored the various state and federal investigations into the Taum Sauk incident, as well as the resulting legal actions. Staff experts have obtained and reviewed the various reports produced by UE and by state and federal agencies. Until recently, Staff has not seen any need to initiate a formal proceeding before the Commission. However, recent allegations of intentional misconduct by UE employees now lead Staff to believe that the public interest requires that the Commission open and pursue a formal investigatory proceeding into the Taum Sauk incident. Those new allegations are set out below.

20. On June 4, 2007, a news article by Christopher Leonard appeared in

the St. Louis Post-Dispatch and in the Kansas City Star, in which James L. Alexander of DNR was quoted as alleging that UE employees had purposely tampered with evidence following the collapse of the dam in order to impede the several investigations:

* * *

> An unknown Ameren employee removed the probes immediately after the reservoir collapse. The probes were stacked in a bucket at the bottom of the reservoir by the time Ameren allowed safety inspectors from the Missouri Department of Natural Resources to examine the facility, according to James Alexander, DNR's head of dam safety.
>
> Now investigators might never know for certain how high the probes were raised, or if they were even operational at the time of the collapse, Alexander said.
>
> "We don't know because they went up there and jacked with the evidence before we could find out," Alexander said. "There was no way that anybody could tell just how bad it was – what level it had been set and just how negligent they had been."

* * *

St. Louis Post-Dispatch website, June 4, 2007.

21. Additionally, the same article alleges that "Ameren never supplied all the e-mails and documents that [Highway Patrol] investigators requested. It also says no one ever acknowledged altering the probes, even though Ameren employees acknowledged only a handful of people knew how to change the devices. "In the course of all interviews, no one has admitted to making a manual adjustment to the probes, which caused the incorrect reading," the [Highway Patrol] report says. "In short, no one has been identified as having actually 'pulled up' or moved the location of the probes along the inside of the

reservoir walls." *Id.*

22. UE denies that any tampering with evidence concerning the Taum Sauk collapse ever occurred. UE states further that it fully cooperated with the Highway Patrol investigation and that it has provided to the Highway Patrol the names of the employees who had moved the probes following the collapse. *Jefferson City News-Tribune,* June 7, 2007 (*News-Tribune website); AmerenUE Press Release,* June 7, 2007.

23. Staff suggests that these new allegations require thorough investigation by this Commission, supported by compulsory process, so that the truth or falsity thereof might be determined and the Commission will be better able to make such order or orders as the protection of the public interest may require. Additionally, Staff notes that the cited news article also raises concerns about a corporate culture at Ameren and UE that undervalues safety concerns in favor of profit-seeking: "[Taum Sauk Superintendent Richard] Cooper stated that he had people above him and below him that wanted to know what was going on. Since the upper reservoir was set two feet lower, that was resulting in producing less mega watts [sic] of electricity." *Id.* Staff states that there is reason to investigate the safety and adequacy of UE's operation of its system in general.

24. On May 22, 2007, the Commission issued its Report and Order disposing of UE's general rate increase request, filed on July 7, 2006. *In the Matter of Union Electric Company, doing business as AmerenUE,* Case No. ER-2007-0002 (*Report & Order,* issued May 22, 2007). That case is still pending before the Commission because the Commission has not yet ruled on the

Applications for Rehearing filed by various of the parties. For the sake of completeness, Staff reminds the Commission of its treatment of Taum Sauk in that case:

> On December 14, 2005, the upper reservoir at AmerenUE's Taum Sauk pumped storage facility in Reynolds County, Missouri ruptured, allowing 1.5 billion gallons of water to rush down the side of a mountain and through Johnson's Shut-Ins State Park. Fortunately, no one was killed in the flood, although several people were injured, but the raging waters caused extensive property and environmental damage.
>
> AmerenUE claims to accept full responsibility for the reservoir failure and the resulting damages. Consequently, its rate increase request does not include any money to pay for cleanup of the park, reimbursement of the expenses incurred by the State of Missouri, or for resolution of individual damage claims. Furthermore, AmerenUE has not asked to recover the cost of fines or penalties imposed by the federal or state governments as a result of the Taum Sauk disaster.
>
> In a rate case such as this, the Commission establishes the rates a utility may charge based in part on the expenses the utility incurs to provide service to its customers. If an expense is not allowed into the utility's cost of service, its rates will be set at a level which does not allow the company to recover that cost from its customers. Since AmerenUE will not be allowed to include the Taum Sauk expenses in its cost of service as calculated for this case, those costs will not be recovered from ratepayers and will instead have to be paid with shareholder funds.
>
> The exclusion of the direct expenses of cleaning up the Taum Sauk mess is not the end of the matter. AmerenUE used the Taum Sauk pumped hydro power plant to provide electricity to its customers, as well as to generate power to sell off-system in the wholesale electricity market. With the Taum Sauk plant unable to generate electricity because of the failure of the reservoir, AmerenUE will have to generate electricity for its own customers using other, more expensive, power plants. Furthermore, it will be unable to sell power from the Taum Sauk plant in the profitable wholesale market. Since profits from off-system sales are used to offset AmerenUE's cost of service, and thereby reduce the rates paid by AmerenUE's customers, the loss of revenue from the Taum Sauk plant could have adverse consequences for ratepayers, aside

from the direct cost of cleanup.

> To avoid harming ratepayers, AmerenUE agreed that the various studies and cost models that are used to determine the company's cost of service should be based on the assumption the Taum Sauk plant has remained in operation throughout the test year. By using these models that assume the Taum Sauk plant is still operating, the Commission will be able to establish rates that protect ratepayers from having to pick up the bill for either the cleanup costs or the lost revenues resulting from the Taum Sauk disaster.

Id., at pp. 10-12.

WHEREFORE, on account of all the foregoing, Staff prays that the Commission will open an investigatory docket in order to determine whether UE's electric plant and operational practices are safe and adequate and, after due consideration of the competent and substantial evidence of record therein, make such order or orders as will best protect the public interest, whether to direct the General Counsel to file a complaint before the Commission or elsewhere, or to refer the matter to another agency or agencies, or to make some other appropriate disposition thereof. To that end, Staff prays that the Commission will open a contested case docket, direct Notice of this proceeding to all interested parties, convene an evidentiary hearing, and issue its order as stated above; and grant such other and further relief as is just in the circumstances.

Respectfully Submitted,

/s/ KEVIN A. THOMPSON
Kevin A. Thompson
General Counsel
Missouri Bar No. 36288

P.O. Box 360
Jefferson City, MO 65102
573-751-6514 (telephone)
573-526-6969 (facsimile)
kevin.thompson@psc.mo.gov (e-mail)

Attorney for the Staff of the
Missouri Public Service Commission

Certificate of Service

I hereby certify that a true and correct copy of the foregoing was served, either electronically or by hand delivery or by First Class United States Mail, postage prepaid, on this **8th day of June, 2007**, as set out below:

Steven R. Sullivan, Esq.
General Counsel
AmerenUE
P.O. Box 66149 (MC 1300)
1901 Chouteau Avenue
St. Louis, Missouri 63166-6149
srsullivan@ameren.com

Lewis R. Mills, Jr.
Public Counsel
P.O. Box 2230
200 Madison Street, Suite 650
Jefferson City, Missouri 65102
lewis.mills@ded.mo.gov

s/ Kevin A. Thompson