# Missouri Public Service Commission Staff Final Report of the

# Investigation of Union Electric Company d/b/a AmerenUE's Storm Preparation and Restoration Efforts Following the Major Ice Storm in December 2007







Case No. EO-2008-0218
June 17, 2008

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#### **Executive Summary**

This report is in response to the Commission's Order in Case No. EO-2008-0218, In the Matter of an Investigation of Union Electric Company, d/b/a AmerenUE's Storm Preparation and Restoration Efforts. The Order directed the Missouri Public Service Commission Staff (Staff) to investigate AmerenUE's storm preparation and restoration efforts following a severe ice storm that impacted their service areas on December 9-13, 2007. All four investor-owned electric utilities were affected by the December 2007 storms, as well as the rural electric cooperatives and municipal electrical systems. The State Emergency Management Center (SEMA) was activated from December 9, 2007 through December 18, 2007.

Staff issued a letter to the Company requesting various types of data and these responses provide a basis for portions of this report. This letter is included as Attachment A at the end of this report. Additional information was gathered from other sources, including meetings and communications with the utilities and city and county officials. An on-site meeting was held between Staff and Company personnel at the Company's headquarters in St. Louis, Missouri on February 28, 2008. A total of 26 public comments were filed in the Commission's electronic filing and information system (EFIS) in Case No. EO-2008-0218 and these were also reviewed by Staff. A chart that summarizes the types of comments filed is included in the section public comments. An initial assessment and report was filed by Staff on April 3, 2008. This report presents a more detailed assessment of the Company's actions.

On January 15, 2008, Commissioner Robert M. Clayton III filed a concurring opinion in this case to the order directing this report. Within his concurrence, Commissioner Clayton requested that Staff address a list of items within its report. To ensure that these items were sufficiently addressed, Staff requested that the Company directly address each item with a written response. The Company's response to the issues raised by Commissioner Clayton is included at the back of this report as Attachment B.

Severe weather patterns began to threaten Central Missouri on December 8, 2007. A more detailed technical description of the weather conditions is provided in this report in the chapter on the weather conditions and severity of the storm. The Company mobilized its internal and local contractor resources in the Central Ozarks division at 6:45 a.m. on December 9, 2007 in response to weather patterns bringing freezing rain. By 8:00 a.m., AmerenUE had activated its Emergency Operations Center (EOC). While AmerenUE has dealt with major outages in its service area related to weather in the recent past, the December 2007 storm was different from prior experiences in many ways. This particular ice storm caused most of its damage to AmerenUE's regional areas, as opposed to the St. Louis metropolitan area. Customers affected by this storm were spread out over a greater geographic area. It was difficult in many instances for crews to even travel because of road conditions to areas needing repairs. management and outside crews from the unaffected metro divisions were deployed to the regional areas to assist in the restoration efforts. A total of 96,891 customers were without electric service over the course of this ice storm outage. The majority of these customers were in the Central Ozarks and Boone Trails divisions of AmerenUE. Resources were utilized from internal employees, contractors and mutual assistance utility crews. Detail on the specific locations and resources utilized to restore service are included in the body of this report. Restoration was determined to be completed by December 12, 2007.

During the course of this investigation, the Company was also faced with an additional severe weather occurrence in the Cape Girardeau area. Freezing rain began on the night of February 11, 2008 and continued throughout the day on February 12, 2008. Outage numbers reached a one-day peak of 17,000 customers on February 12, 2008. A total of 31,203 customers were affected by this ice storm. All restorations were completed by February 15, 2008.

In the last four years, the Company has experienced repeated severe weather occurrences that have caused major outages over a wide section of their service area. Staff has completed reports evaluating the Company's restoration efforts in June 2002,

July 2004, August 2005 and July 2006. These reports included recommendations regarding improvements to the Company's storm restoration procedures.

In January of 2007, in response to these weather events, the Company determined that it would seek the assistance of an outside consultant with experience evaluating storm response protocols. The management of AmerenUE engaged an outside consulting firm KEMA to conduct a study of the adequacy of the Company's ability to prepare for and respond to severe weather events. Staff was provided with a copy of this study, as well as AmerenUE's responses to KEMA's recommendations, on January 11, 2008. The Company's response is included in the Executive Summary of the KEMA Report. Staff discussed with the Company its belief that a formal presentation should be made to the Commission distinct from this docket to address the specific recommendations and allow the Commissioners to ask questions regarding the Company's responses. Additional severe weather events, and the Commission's busy schedule, have caused this presentation to be delayed, but Staff again encourages the Company to proceed.

# 1. Recommendation: <u>Schedule a presentation with the Commission to discuss</u> the <u>KEMA report and the Company's anticipated actions in response to the recommendations in the report.</u>

The KEMA Report represents a substantial effort to review, evaluate and make recommendations in a number of different areas critical to the storm restoration systems. Staff has attached a copy of this complete document to provide more specific information on the recommendations made by the consultant to the Company. This has been provided as Attachment C. The Company has stated that the implementation of these recommendations is being evaluated and some have already been addressed. Staff has not provided a large number of additional new recommendations to the Company in this document. Staff believes that Company's focus should be upon the implementation, where appropriate, of the recommendations of the KEMA Report.

Prior to the KEMA Report, which made recommendations for improvements to the outage restoration system, Staff issued its own report in November 2006 detailing an evaluation of the Company's response to the July 2006 storms. Staff has requested an update to actions taken in response to that report. The Company response is included as Attachment D at the end of this document.

As noted earlier, the Commission has ordered formal reports to be filed by Staff for each of the four electric investor-owned utilities. Staff believes there can be a great deal of value in each company reviewing the storm experiences and outage restoration practices of other electric utilities. While AmerenUE has had the most extensive experience with severe storms of any of the Missouri utilities, there may still be valuable lessons that can be gained from a review of the other utilities' experiences. These lessons could be shared in several ways, including a review of the formal reports of each company and workshops to discuss the specific areas.

- 2. Recommendation: <u>Review and evaluate the findings, conclusions and recommendations of the other December 2007 Storm Investigation reports. Determine if practices implemented by other utilities may be beneficial to utility operations during outage restoration.</u>
- 3. Recommendation: <u>Participate in a Commission sponsored storm restoration</u> workshop to discuss this report and concurrent reports for other utilities. <u>Incorporate an agenda item for the workshop to include a consistent methodology for future utility storm reporting.</u>

Staff has included recommendations in the sections of this report where their basis is established. A summary of all recommendations may be found at the end of Staff's Report in a section entitled Summary of Recommendations.

As used in this report, AmerenUE refers to Union Electric Company d/b/a AmerenUE, an electric utility the Commission regulates, and Ameren refers to the parent of AmerenUE-Ameren Corporation. The Commission does not regulate Ameren Corporation.

## **Weather Conditions and Severity of Storm**

Due to the extent of damage and outages resulting from the December 2007 ice storms striking Missouri, Staff communicated with Dr. Patrick Guinan, Missouri State Climatologist, and researched National Oceanic and Atmospheric Association (NOAA)/National Weather Service (NWS) internet sites to gauge the December 2007 storms in a historical context.

Dr. Guinan, in the January 2008 issue of the Missouri Ruralist, stated:

Several weeks ago Missouri experienced its second major ice storm in less than a year with a large part of the state cocooned in ice. The storm reached historical proportions over parts of northwestern Missouri, where some communities in Buchanan, Andrew, Holt, Atchison and Nodaway counties reported ice as thick as 1-inch on trees, power lines, vehicles and just about everything that was exposed to the elements.

Winter storms that deposit a glaze of 0.75 to 1-inch of ice are rare and have about a 1 in 50 year recurrence interval for any given location in Missouri. Historical accounts of major ice storms of this magnitude in Missouri indicate the rarity of these events. According to archived storm reports from the National Climatic Data Center, National Weather Service reports, and various press clippings, only a handful of storms of this magnitude have impacted Missouri.

During December 2007, Missouri faced three distinct storm events, striking separate areas of Missouri. Dr. Guinan's report helps place the storms in a historical perspective. A NOAA Technical Report, published in 2002, entitled "The Development of a U.S. Climatology of Extreme Ice Loads" confirms that a 1-inch accumulation is on average a once in 50-year occurrence for most of Missouri. Listed below is a summary of the weather conditions and the areas affected during the course of these storms (data was collected from NOAA's NWS website).

- December 8-10, 2007 storm Storm impacted Missouri Ozarks, with ice accumulations across Joplin, Missouri. Lesser accumulations of 1/4 to 1/2 inch with locally higher amounts. Nearly three quarters of an inch fell along the Interstate 44 corridor.
- December 8-12, 2007 storm Conditions started building by later afternoon Saturday, December 8, 2007. Thunderstorms with freezing rain and sleet formed

after midnight Saturday night. Areas affected were parts of Central and Northeast Missouri where thunderstorms produced up to 2 inches of sleet. The hardest hit portions of the area were the Jefferson City/Central Missouri area, and an area from Western Warren County, across Lincoln County to Pike County.

• December 10-11, 2007 storm - Precipitation rates increased quickly Monday evening, December 10, 2007, with ice rapidly accumulating on many surfaces, especially trees and power lines. Precipitation began to wind down in the evening of Tuesday, December 11, 2007. Conditions improved by Wednesday, December 12, 2007, as roads were treated and the thin sheet of ice dried off. Areas affected were along and north of the Missouri river extending into adjacent northeast Kansas. Ice accumulations of 3/4 inch were common, with isolated accumulations around 1 inch generally north of a line from Atchison, Kansas through Trenton, Missouri to Unionville, Missouri. Further south, temperatures warmed during the overnight, and by dawn hovered between 32 and 34 degrees. As a result, ice accumulations between 1/4 inch and 1/2 inch were noted along the Interstate 70 corridor, with lesser amounts further south.

Maps and additional explanation from the National Weather Service is presented later in this report. These areas of severe ice correlate with the counties shown in the FEMA Disaster Declaration FEMA map, also presented subsequently in this report.

Historically, the data demonstrates that parts of Missouri have been affected by ice storms of varying magnitude every few years. However, the year 2007 was unusual in that Missouri was struck with two ice storms in back-to-back winters (January 12-14, 2007 and December 8-11, 2007). The more widespread December storm met the theoretical criteria for a once-in-50-year occurrence at numerous locations throughout the state. Attachment E to this report describes the historic ice storms that have impacted Missouri over the last century and a half (from December 1848 to December 2007), based on an ice thickness of at least 1/2 inch. The occurrence has not been ranked in terms of severity of damage or duration, but a few that have been categorized as being severe were in December 1924, December 1987 and January 12-14, 2007.

## **National Weather Service Report on December 2007 Ice Storms**



#### Ice Storm Event Summary December 8 through 10, 2007

The second major ice storm of the year impacted much of the Missouri Ozarks and southeast Kansas from Saturday, December 8 to Monday, December 10, 2007.

Damaging ice accumulations of ¾ inch of an inch to 1 1/2 inches occurred from the Joplin Missouri and Pittsburg Kansas areas northeast to the Osceola and Versailles areas. These accumulations downed numerous trees, tree branches and power lines resulting in widespread power outages.

Lesser accumulations of 1/4 to 1/2 of an inch, with locally higher amounts near 3/4 inch, fell along the Interstate 44 corridor. This resulted in downed tree branches and scattered power outages.

The table below provides ice accumulations for the December 8 through December 10 storm.

Ice Storm Accumulation County Summary						
County	Ice Accumulation					
Kansas:						
Bourbon	0.25 to .050					
Crawford	0.50 to 1.50					
Cherokee	0.75 to 1.50					
Missouri:	0.701.00					
Vernon	0.50 to 1.00					
Barton	0.75 to 1.50					
Jasper	0.75 to 1.50					
Newton	0.25 to 0.75					
McDonald	0.25 to 0.50					
St. Clair	0.50 to 1.00					
Cedar	0.50 to 1.00					
Dade	0.25 to 0.75					
Lawrence	0.25 to 0.50					
Barry	0.10 to 0.50					
Stone	0.10 to 0.25					
Christian	0.10 to 0.25					
Greene	0.25 to 0.75					
Polk	0.25 to 0.75					
Hickory	0.50 to 1.00					
Benton	0.50 to 1.00					
Morgan	0.75 to 1.00					
Camden	0.25 to 0.75					
Dallas	0.50 to 1.00					
Webster	0.10 to 0.50					
Taney	0.10 or less					
Maries	0.25 to 0.75					
Laclede	0.25 to 0.75					
Wright	0.10 to 0.25					
Douglas	0.10 to 0.25					
Texas	0.10 to 0.25					
Pulaski	0.25 to 0.75					
Phelps	0.25 to 0.75					
Dent	0.25 to 0.50					
Shannon	0.10 or less					

## The December 8 - 12, 2007 Ice Storm

Ice and sleet accumulation map from around the area:



(Analysis by Fred Glass, Senior Forecaster WFO St. Louis)

#### **Discussion:**

On Saturday, December 8, 2007, a strong, cold high pressure system moved from Canada into the Great Plains. This high pressure system brought some very cold air streaming into the Midwest and Great Plains regions. At 2:00 p.m. on Saturday December 8, 2007, temperatures ranged from the mid-30s in Southeast Missouri to the upper teens in Northeast Missouri. As this cold air was settling in across the Bi-State region, a low pressure system developed over the southern plains which drew copious amounts of Gulf moisture up and over the cold air which was locked in at the surface. Sub-freezing

temperatures across the northern 2/3 of the Bi-State Region combined with this overrunning warm and moist air provided the perfect setup for freezing rain.

Between Saturday evening and Tuesday morning, several waves of precipitation affected Missouri and Illinois, bringing up to an inch of freezing rain accumulation, as well as up to two inches of sleet in parts of Central and Northeast Missouri, which fell after midnight on Sunday morning.

## **December 10 - 11, 2007 Ice Storm**



A slow moving storm system brought a long duration of freezing rain to a large portion of the nation's mid-section. After several rounds of minor snow and ice accumulations over the previous week, a major storm system produced one final blow, capping the region with significant ice accumulations. The event began early Monday evening and continued into the early evening hours on Tuesday. Very warm and moist air aloft was brought in ahead of a large storm system moving slowly out of the southwest United States. At the surface, Canadian high pressure which had been in firm control over much of the past week, helped keep temperatures near ground level in the upper 20s

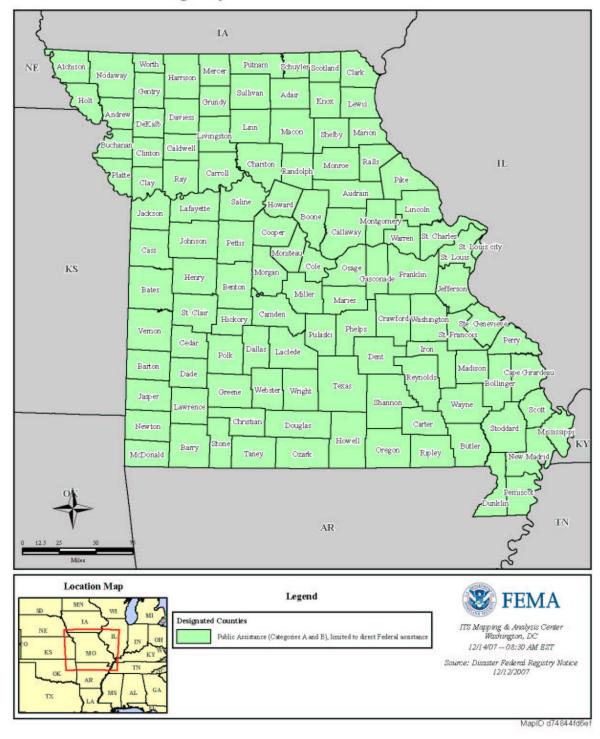
to lower 30s. With surface temperatures at or below freezing, combined with a warm layer of air just above the surface, the precipitation fell in the form of freezing rain.

As precipitation rates increased quickly Monday evening, ice rapidly accumulated on many surfaces, especially trees and power lines. Locally, ice accumulation was particularly devastating along and north of the Missouri river, extending into adjacent northeast Kansas. Ice accumulations of 3/4 inch were common, with isolated accumulations around 1 inch generally north of a line from Atchison, Kansas through Trenton, Missouri to Unionville, Missouri. Further south, temperatures warmed during the overnight, and by dawn hovered between 32 and 34 degrees. As a result, ice accumulations between 1/4 inch and 1/2 inch were noted along the Interstate 70 corridor, with lesser amounts further south.

Area electricity providers are reporting widespread power outages across portions of eastern Kansas and northwest Missouri. The most hard-hit areas extended from near Manhattan, Kansas through St Joseph, Missouri, and into southwest Iowa, where estimates are that nearly 75% of customers remain without power. Specifically, in communities along and north of US Highway 36, and west of Interstate 35, numerous fallen larger tree branches and downed power lines were reported. As of 5 p.m. Tuesday, December 11, providers are estimating that over 165,000 Missouri residents were without electricity.

Precipitation began to wind down Tuesday evening. However, additional power outages and damage were caused as north winds of 15 to 20 mph buffeted northern Missouri through the late evening. As temperatures fell quickly back through the 20s, wet roadways quickly refroze, resulting in widespread black ice. Several multiple vehicle accidents were reported during the evening hours Monday along major interstate routes as travelers suddenly found wet roadways had turned to a thin sheet of ice. Conditions had largely improved by Wednesday morning as roads were treated and dried out.

# FEMA-3281-EM, Missouri Emergency Declaration as of 12/12/2007



## **Storm Restoration Planning Process**

Staff held a roundtable on Electric Utility Storm Outage Planning and General Service Reliability in June of 2007. The Company made a presentation regarding AmerenUE's Electric Emergency Restoration Plan (ERP or Plan). The elements of the Plan are listed below. The entire presentation is included at the end of the report as Attachment F. The Plan contains the following items:

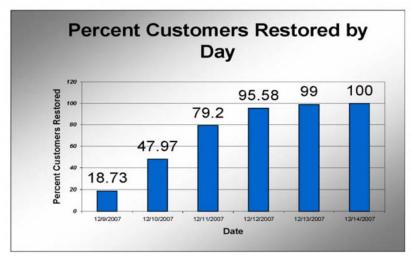
- Emergency Operations Center
- Individual Job Duties/Responsibilities
- Damage Assessment
- Restoration Update Conference Calls
- Extensive Damage Recovery
- Division Electric Emergency Restoration Plans
- Division Supply List
- Logistics
- Sending/Receiving Crews within AmerenUE System
- Handling Outside Crews
- Mutual Assistance to Other Utilities
- Technology
- Contingency Planning for Loss of Critical Systems and Facilities

Although the implementation of the ERP requires unique actions to be taken by the Company in response to each specific storm, the basic elements of the ERP have remained the same for all of the major outages that AmerenUE has experienced in the last four years.

## **Extent of Outages on AmerenUE Territory**

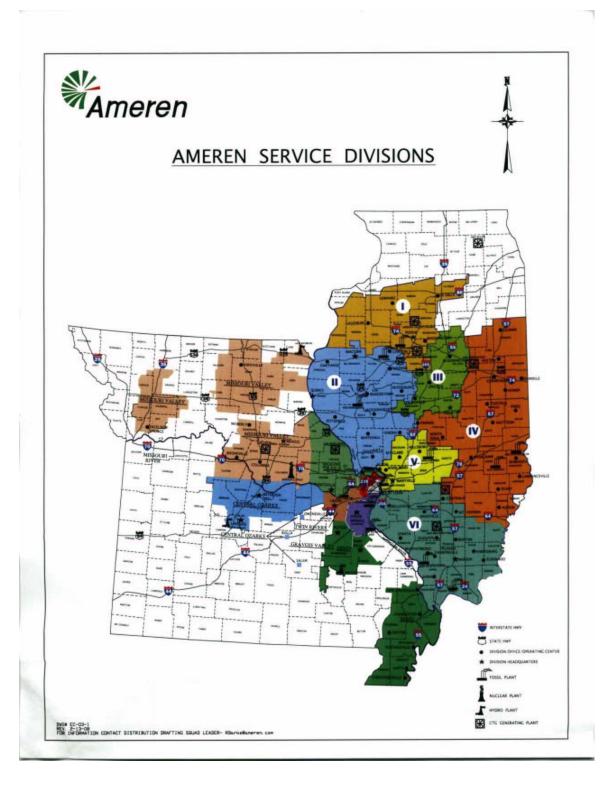
The first outages that occurred in the AmerenUE territory occurred early Sunday morning, December 9, 2007. Approximately 96,891 AmerenUE Missouri customers were affected by the two waves of ice and sleet precipitation. For comparison purposes, the July 2006 summer storm affected approximately 646,111 AmerenUE Missouri customers.

The following illustrates the percentage of customers restored by day.



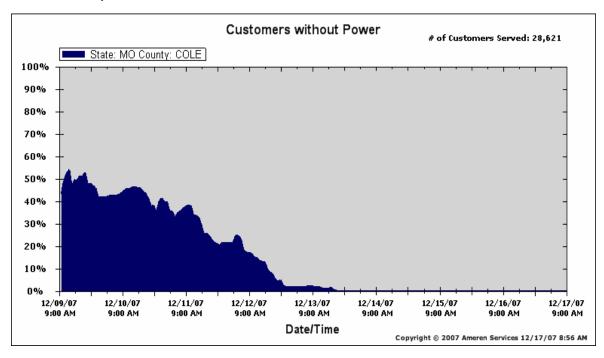
Source: AmerenUE

The hardest hit portions of the state for AmerenUE were in the Jefferson City/Mid-Missouri area and the areas to the northeast through western Warren County across Lincoln County northeast to Pike County. Two deaths were reported in mid-Missouri as a result of the ice storm. Shelters were open in Cole, Pike, and Warren counties. A map of AmerenUE's Service Divisions is illustrated on the following page.

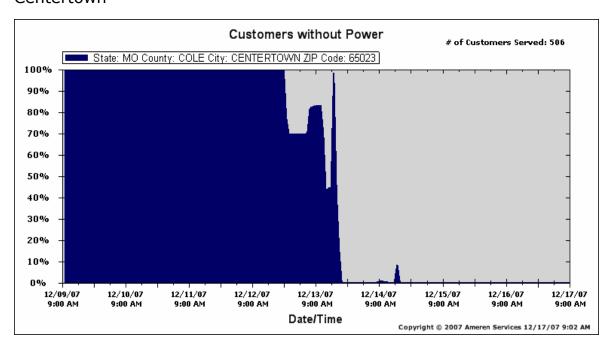


The next set of graphs indicate the percentage of customers out of service by day, as well as the total number of customers served in that region.

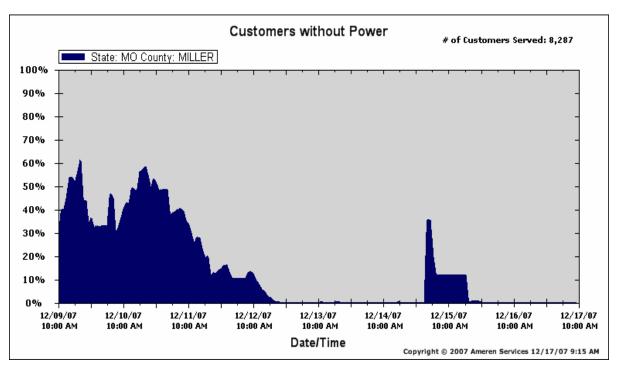
## Cole County



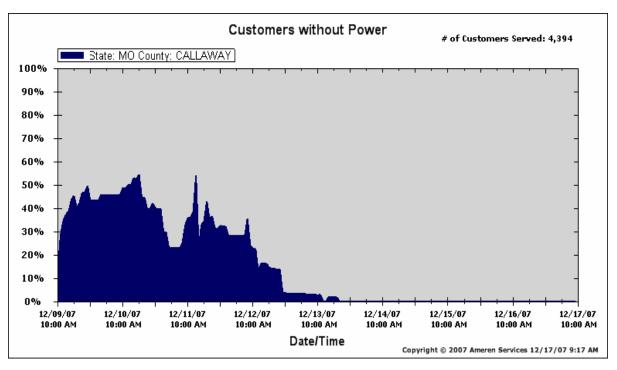
## Centertown



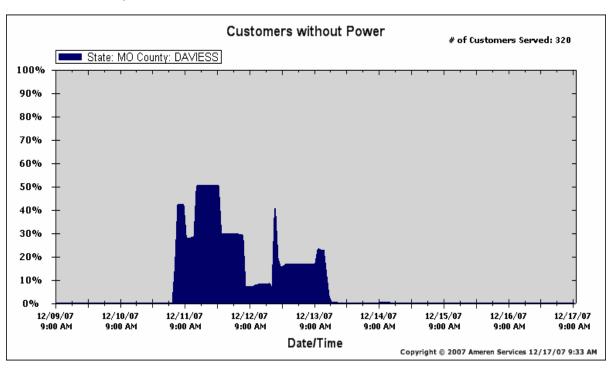
## Miller County



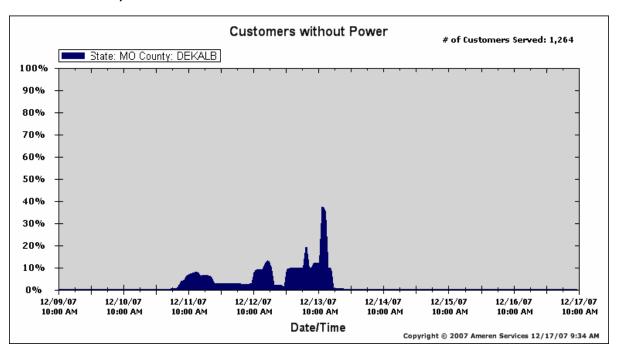
## Callaway County



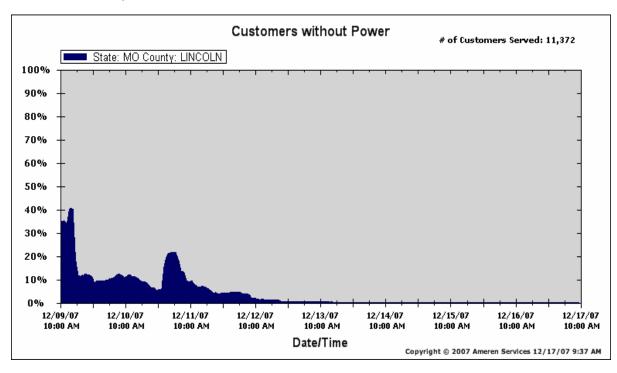
## **Daviess County**



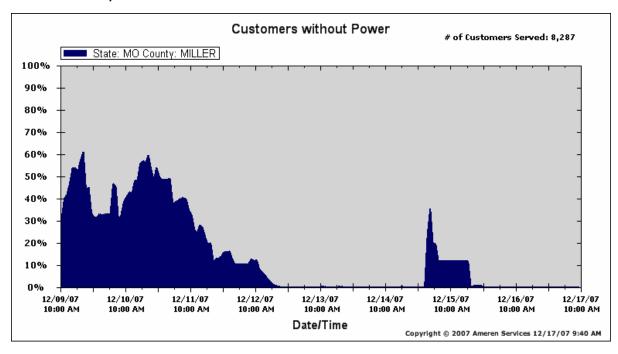
## **Dekalb County**



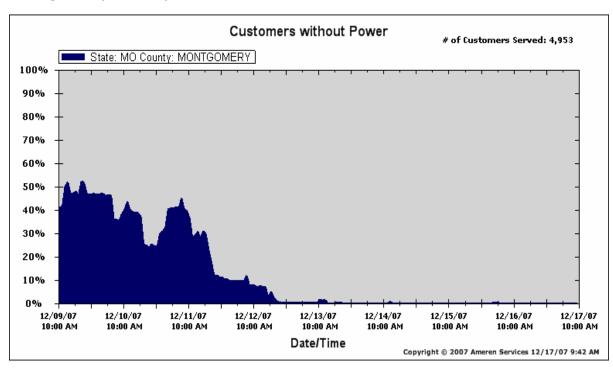
# Lincoln County



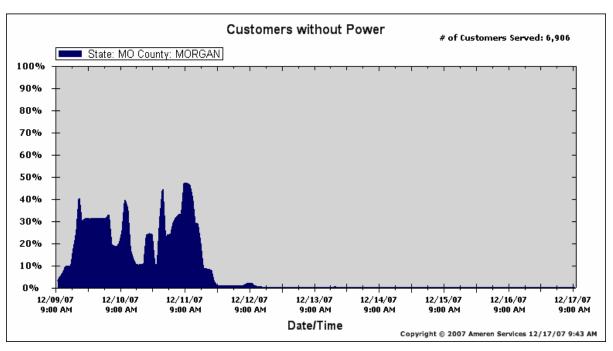
## Miller County



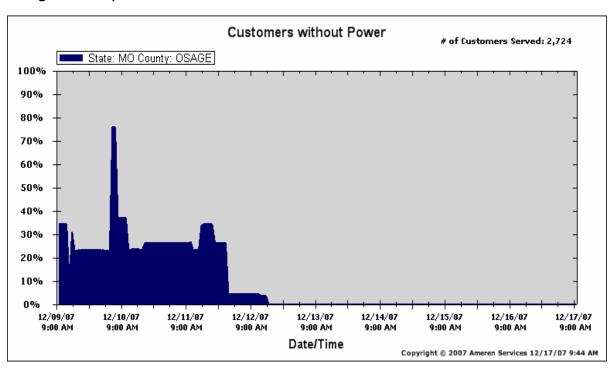
## **Montgomery County**



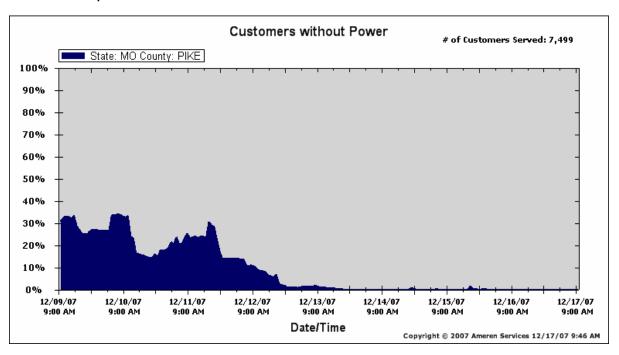
## Morgan County



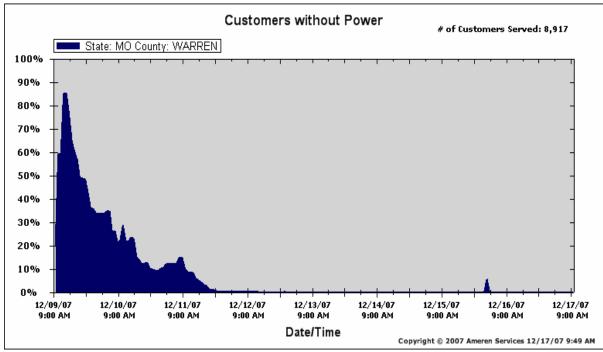
## Osage County



## Pike County



## Warren County



Source: AmerenUE

## **Outage Tracking and Field Dispatch Coordination**

Staff has reviewed how AmerenUE's Emergency Operation Center (EOC) performed and how AmerenUE utilized its Outage Analysis System (OAS) to track and coordinate restoration efforts. Staff believes that the EOC was able to use the OAS to effectively and efficiently move resources to the areas with the most damage.

The EOC used OAS as a guide to determine resource needs. In the affected divisions, local managers used OAS to determine specific placement of resources based on the highest number of outages. Resources from all eight divisions within AmerenUE responded to assist in the storm restoration efforts. The majority of the resources were assigned to the Central Ozarks Division. The Missouri Valley and Boone Trails Divisions also received some assistance. The chart on the following page details outages by division.

**Outages by Division During December 2007 Ice Storm** 

Division	#Customers	% Total	# Served in	% out in
	Out	Outages	Division	Division
Central Ozarks	47,564	49%	85,793	55%
Boone Trails	26,872	28%	151,978	18%
Missouri Valley	9,406	10%	67,296	14%
ArchView	4,182	4%	148,681	3%
Gravois Valley	3,672	4%	288,812	1%
SEMO	2,821	3%	103,411	3%
Gateway	1,261	1%	238,507	1%
Twin Rivers	1,107	1%	101,683	1%
Undefined	5	0%		
Total	96,891		1,186,161	

Source: AmerenUE

#### **Material Distribution**

On Friday December 7, two days before the first outage occurred, AmerenUE moved a material trailer to the Mexico, Missouri storeroom so that it would be ready to deploy. That trailer was moved to the Truman Hotel in Jefferson City on the morning of December 10 and a staging area was set up. On December 10 another trailer was moved from St. Louis to Eldon, Missouri to support restoration efforts in that area. On December 11, another material trailer was moved from St. Louis to Cameron, Missouri to support restoration efforts in the Missouri Valley territory. An additional material trailer was sent to the Capital Mall in Jefferson City on December 11 to support the 1000+ linemen working in that area. A total of four staging areas were established in three geographical areas. Two personnel manned each staging area. Twelve transportation personnel were kept busy replenishing the material in the trailers. All personnel in the Company's Stores Department were on storm hours in an effort to

keep the flow of material moving to the affected divisions. All four staging areas were dismantled and cleaned up by the end of the day on December 14. The four trailers were re-stocked on December 15 and made ready for the next event.

The following major material items were replaced as a result of the storm:

**Materials Utilized** 

Wire and cable	39 miles
Poles	218
Cross Arms	575
Switches	721
Transformers	94

Source: AmerenUE

## **Crew Dispatch/Mutual Assistance**

When the first outages due to ice accumulation occurred early Sunday morning on December 9, the general call for all Capital and Lakeside crews was made at 6:30 a.m. The general call for all Nelson crews in Wentzville/St. Charles was made at 7:15 p.m. The EOC operations began at 8:00 a.m. At 10:00 a.m., AmerenUE began mobilization of field checking resources for all areas. The Company also began mobilization of AmerenUE crews and on-property contractor resources. St. Louis Metro in-house crews were held to wait to see what area was impacted by the forecasted second storm.

The first Midwest Mutual Assistance Group (MMAG) conference call was held at 2:00 p.m. Initially, several utilities were willing to release their contract resources, but elected to hold their internal resources based on weather forecasts. AmerenUE was able to obtain commitments for contractor and utility resources from Duke, E-On US, Indianapolis Power and Light, and Vectren Energy. At 5:30 a.m. the next morning all AmerenUE crews in un-affected divisions reported to home operating centers. These crews are sent to assist affected divisions with restoration efforts. The second MMAG call was held the next day on Monday, December 10 at 1:00 p.m. AmerenUE received

commitment for additional utility resources from Xcel Energy. Two mutual assistance utilities and 14 line construction contractors sent crews from the following states: Minnesota, Kentucky, Indiana, Ohio, Kansas, Illinois, Georgia, Tennessee, North Carolina, Oklahoma, and Mississippi.

Resource Tota	Resource Totals For December 2007 Ice Storm									
	Restoration	1								
AmerenUE Foreign Total										
		Crews								
Linemen	498	954	1452							
Tree Trimmers		650	650							
Support	270	31	301							
GOB Staff	75		75							
EOC/Dispatch	50		50							
Stores	74		74							
Call Center	146	24	170							
Total	1113	1659	2772							

Source: AmerenUE

## **Storm Critique**

The Company held a Storm Critique Meeting on January 30, 2008. Representatives from all of the Company's operating divisions and supporting departments were involved. The Company identified several areas for improvement and practices that worked well during the restoration effort. Discussion items from that meeting are attached to this document as Attachment E.

## **Prioritization of Outage Repairs**

This section will detail the prioritization steps used by the Company, a brief explanation of how power is delivered to homes, and how crews were dispatched using the ERP in the December 2007 Ice Storm. Special circumstances that were encountered during the restoration will also be discussed.

Following are the restoration prioritization guidelines AmerenUE uses:

- Wire Down Emergencies
- Transmission, Subtransmission, Substation outages
- Feeder Outages
- Critical Facilities (hospitals, nursing homes, fire/police, public works, etc.)
- Alert Customers
- Device Outages
- Grouped Outages
- Transformer Outages
- Single Outages

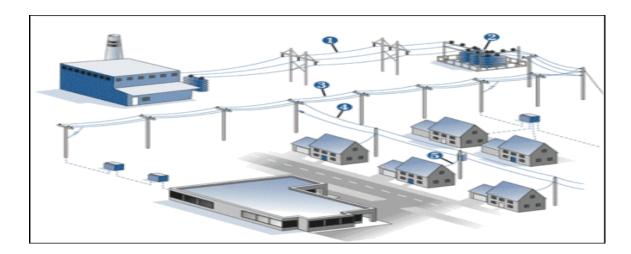
The following outage repair orders were received and completed via the OAS system during the December 2007 storm:

Sı	Summary By Outage Repair Order Type During December 2007 Ice Storm									
Device	Feeder	Grouped	Maintenance	Single	Sub	Transformer	Grand			
Outage	Outage	Outage	Outage	Outage	Transmission Outage	Outage	Total			
632	154	662	122	1623	23	458	3674			

Source: AmerenUE

In order to understand the prioritization guidelines and to understand how a restoration effort is accomplished, it is necessary to understand how power is delivered. The Company's Web site depicts an illustration of how your home receives power:

#### ELECTRICAL DISTRIBUTION SYSTEM



- 1. Electricity travels from the power plant over high-voltage transmission lines.
- 2. At a substation, the electricity's voltage is lowered so that it can travel over the distribution system.
- 3. Primary lines carry electricity to secondary lines.
- 4. Secondary lines carry electricity to neighborhoods.
- 5. Service drops carry electricity from pole-mounted transformers which lower the voltage again to your home.

Source: AmerenUE Web site

In power outage situations, restoration crews focus on those repairs that will restore power to the greatest number of customers in the least amount of time. Typically, utilities begin with transmission lines, those that can restore power to perhaps thousands of customers. After making repairs at substations, they move to primary lines that can affect hundreds; secondary lines that affect dozens; and finally to service drops at individual homes. Note that if a substation is damaged, all customers "downstream" from the substation may be affected. In addition, even when primary lines have been repaired, you may have a problem with your secondary line, your transformer or the service drop to your home that keeps you in the dark even if your neighbors' lights are back on. Staff believes that the prioritization process used by AmerenUE is consistent with industry practice. The Company reported the following special circumstances

encountered in the December 2007 storm restoration. Some of its specific responses to these circumstances are included in parenthesis at the end of the bulleted point.

#### BOONE TRAILS DIVISION

- The Company executed its Boone Trails Storm Restoration Plan. This was helpful for support personnel to make emergency contacts and in obtaining information for logistics.
- The Clarksville communication tower went down and the Company was not aware of it until a field checker found it was without power.
- Both 34kV lines that feed McKinley substation in Warrenton were lost in the early stages of the storm. This caused an outage at the Company's Warrenton Works Headquarters. There was no emergency generator at this facility and the Company was without radios and internal communication for approximately two hours at this location. (A temporary portable generator has been acquired.)
- The restoration effort was hindered in the Pike County (Louisiana) area because there is only one hotel in Bowling Green. (Meetings were set up with the Pike County Emergency Management coordinators to discuss solutions to lodging in the area in the future.)
- Warren county Emergency Management Agencies had problems distinguishing between cooperative customers and AmerenUE customers when they received calls. (A report is being created that will provide addresses retirement centers, senior citizen housing, and other high priority AmerenUE customers.)

### MISSOURI VALLEY

- Excelsior Springs Staging areas in smaller communities for a large contingency of trucks were difficult to find.
- Kirksville Staging areas, motels, and food were not available for large numbers
  of trucks and restoration workers in smaller communities, so workers were based

out of Kirksville which is about 20 to 25 miles away from the Sullivan County customers.

• Mexico – Initially setting up food places to send the crews to eat was an issue due to restaurants out of power. After the initial set up things went smoothly other than having to send crews one morning 30 miles away for breakfast because the only restaurant that would serve them breakfast in the area was out of power.

#### CENTRAL OZARKS

 Received a special request from the Jefferson City School District to get the last remaining elementary school restored so they would not have to cancel school another day. (That request was elevated on the priority list and it was accomplished.)

These special circumstances are representative of issues that typically arise during a large outage and therefore a process such as AmerenUE's storm critique should review these.

#### **Call Center Operations**

A company's call center serves as the primary method for customers to contact the utility to conduct business with them. As utilities have discontinued or reduced the number of public business offices, the customer is even more dependent upon the service representatives who answer the call center phone lines to provide them with accurate and efficient service. Many times, this may represent the only actual contact that a customer has with the Company. Consequently, the representatives who staff a call center may have the single greatest impact in forming the customer's opinion of the services being provided by the company. During a major electric service outage, call center representatives must be prepared to deal with large numbers of inquiries from customers who are dealing with the difficulties associated with a loss of their electric service. While

inconvenient for any customer, for some customers this may represent a more serious situation.

The Company has provided customers with an 800 toll free number, as well as a local number for metropolitan St. Louis customers, to contact its Call Center for a variety of services and questions. In addition to the general number, the Company also offers its customers in the metro area an additional direct "lights out" number to report a service outage.

If the customer dials the Company's general number, they first reach the Interactive Voice Response (IVR) system which assists them to categorize their call and route it to the next available group of options. The customer then is able to select from one of four options to handle their call. Normal business operating hours for the Call Center are 7 a.m. to 7 p.m., Monday through Friday; however, outage and hazardous condition calls are taken on a 24/7 basis.

The option to report an outage or hazardous condition is the first option presented. The second option is billing because of the frequency of these calls. During a major outage, the Company will add a script to this option to encourage customers that have a billing issue to call back at another time because of the volume of calls being received on the outage.

AmerenUE has a total of 313 trunk lines that include both the local and the 800 number. This number of trunk lines has a theoretical limit of 7,512 calls per hour. If all of these lines are full, then calls will be routed to a vendor that handles the overflow outage calls. At this time, AmerenUE utilizes the services of Stericycle for these overflow outage calls. The customer can utilize Stericycle's IVR to report an outage and then the information is downloaded into the Company's outage system. For emergency situations involving a downed line or gas leak, Stericycle can transfer the customer to AmerenUE via a dedicated trunk line between the two companies.

The following table illustrates the call volume received and handled by the Company and its external contract agents over the period of December 9 through December 13, 2007.

Call Volume Received December 9-13, 2007

	12/9	12/10	12/11	12/12	12/13	Total	Avg Daily Storm	Avg Daily '06
Total Service Center Calls Offered	34,604	17,941	17,033	17,551	13,430	100,559	20,112	15,900
Total Service Center Calls Handled	30,482	17,655	16,942	16,262	13,265	94,606	18,921	
Calls Handled VRU	20,396	5,692	5,154	4,063	3,204	38,509	7,702	
ORS – Outage Orders	4,092	3,382	2,895	1,194	500	12,063	2,413	
Automated Billing	964	2.308	2,259	2,869	2,704	11,104	2,220	
Stericycle (Overflow IVR)	15,340	2	0	0	0	15,342	3,068	
Total Calls Offered Agents	14,208	12,249	11,879	13,488	10,226	62,050	12,410	9,000
AmerenUE Calls Offered	14,208	9,843	9,598	11,156	8,089	52,894	10,579	
External Contactor Calls Offered	0	2,406	2,281	2,332	2,137	9,156	1,831	
Total Calls Handled	10,086	11,963	11,788	12,199	10,061	56,097	11,219	8,500
AmerenUE Calls Handled	10,086	9,623	9,576	9,886	7,947	47,118	9,424	
External Contactor Calls Handled	0	2,340	2,212	2,313	2,114	8,979	1,796	

Source: AmerenUE

The total number of calls received for the defined five day period of the outage was 100,559. This total is far less than the total of 715,689 calls handled over the 10 day outage period that resulted from the thunderstorms of July 2006.

The number of calls handled by the Call Center on a daily basis has fluctuated over the last several years. In 2005, the number of average daily calls handled under normal operating conditions was 11,700 and in 2006, this figure increased to 15,900. By comparison, the average daily number of calls taken during this outage period was 20,112.

On a normal weekday, an average of 121 representatives take calls at the Call Center. In instances of major outages, the Company may direct its external contractor, who normally handles collection related calls, to instead take outage calls. On December 10, the Company made the decision to transfer its external contractor resources to outage calls due to the high call volume.

The following chart illustrates the number of personnel taking calls for the Company over the period of the outage.

**Number of Personnel Taking Calls** 

	12/9	12/10	12/11	12/12	12/13	Total
Number of people taking calls	76	170	168	169	161	744
Ameren contact center employees	76	146	144	145	137	648
Ameren employee – other departments						
AmerenCIPS/CILCO call takers*						
External contractor		24	24	24	24	96

Source: AmerenUE

Individuals responsible for handling customer outage calls logged a significant amount of overtime over the five day period. The Call Center was staffed 24/7 to ensure that if the customer needed to talk to a representative, one would be available. The following table illustrates the amount of overtime expended by those taking customer calls.

#### **Overtime Hours**

	12/9	12/10	12/11	12/12	12/13	Total
Overtime (hours)	895.3	728.4	349.3	179.2	105.7	2,257.9
Ameren non-management	829.3	666.2	310.8	165.7	105.7	2,077.7
Ameren management	66.0	51.0	38.5	13.5	0.0	169.0
External contractor	0.0	11.2	0.0	0.0	0.0	11.2

Source: AmerenUE

In prior storm investigations, Staff did receive a number of comments from customers who were attempting to contact the Company regarding billing questions while the restoration efforts were ongoing. Some of those customers had concerns because their service was scheduled for non-pay disconnection during the time frame of the outage. The Company has since addressed this concern by including a message within its IVR script to assure the customers that all resources are being directed to the restoration of service and non-pay disconnections will not take place during major outages.

Call Centers routinely utilize a number of indicators to assist management in determining the level of its performance in providing service to the customer. The two indicators most frequently cited by companies to make some initial determination of performance are the Average Speed of Answer (ASA) and the Abandoned Call Rate (ACR). The wait time that a customer experiences before they are able to speak to a service representative is defined as the ASA and is measured in minutes and seconds.

The ACR reflects the percentage of the calls that are abandoned or terminated before the call is handled. Often this is due to long wait times experienced by the customer. AmerenUE utilizes a Percent Answered indicator, which is similar to the ACR. The Percent Answered is the difference between 100% of the calls and the percent of calls not answered or abandoned.

The Company's performance at the Call Center during the period of the December 2007 ice storm restoration effort is illustrated in the following table:

**Call Center Performance** 

	12/9	12/10	12/11	12/12	12/13	Average
%Answered AmerenUE Agents	71.0%	97.8%	99.8%	88.6%	98.2%	89.1%
Average Speed of Answer -AmerenUE Agents	2:47	0:23	0:03	2:19	0:27	1:14
%Answered External Contractor	n/a	97.3%	97.0%	99.2%	98.9%	98.1%
Average Speed of Answer-External Contractor	n/a	0:02	0:03	0:02	0:02	0:02
% Answered All Agents	71.0%	97.7%	99.2%	90.4%	98.4%	90.4%
Average Speed of Answer - All Agents	2:47	0:18	0:03	1:53	0:21	1:03

Source: AmerenUE

Information provided in the table represents the performance of all agents working for AmerenUE during the outage. The metrics varied over the course of the restoration, but in all cases, the worst performance was on the first day of the outage, as might be expected. It is also important to note that this first day was a Sunday, when staffing resources would normally be lower. These performance figures compare favorably with figures from outages in prior years.

The importance of providing the customer with information that they can then take some action to respond to is a critical responsibility of the Company. Whether this information is with respect to disconnections to be performed or some idea of restoration time, it allows the customer to take an action with some reasonable certainty that it will be an appropriate response.

Prior AmerenUE storm restoration reports discussed the importance and issues associated with providing the customer an estimate of restoration time during major storm outages. The Company has taken several different approaches to this, and it appears that their recent actions have been more acceptable to the customer. The Call

Center IVR scripts, as well as the messages conveyed by the media, have given the customer more information regarding the extent and severity of the outage. Scripts have included messages like "the outages are widespread and severe and it may take two to four days to restore all customers". Even without a specific restoration time, this gives the customer an idea of the magnitude of the outage the Company is dealing with. Armed with that information, a customer can make a decision on whether it may be necessary to relocate from their premise.

## **Call Center Technical Issues Which Occurred During the December Storm**

During the last major storm that occurred in AmerenUE's service area, technical communication issues with AT&T's lines caused some customer calls to be dropped before being answered by the Call Center. The Company has since met with AT&T to discuss circumstances surrounding this and how to avoid a similar situation from occurring in the future.

While this particular situation with AT&T did not reoccur in the December 2007 outage, AmerenUE did experience several technical situations that affected their ability to handle incoming customer calls.

When the Company's external call handlers were requested to assist in handling outage calls on December 10 at 5:00 a.m., a step was missed in the technical programming of the phone system and as a result, the calls did not go through to the call handlers. The situation was corrected after it was discovered that calls were not taken by the vendor until beginning at 7:00 a.m. Additional training has been conducted regarding the necessary steps to bypass the normal automatic system schedule.

The second issue centered on the High Volume Billing Message. Whenever the billing queue has a wait time greater than two minutes, an automatic message indicates that the Company is experiencing high call volumes. It then suggests that the customer call back later if it is anything other than to report an outage. On December 12, it appeared that the message had been deleted and was replaced with one second of silence.

Once the problem was identified, the original message was restored. The Company is reviewing the authority for changing the messages and will make appropriate guidelines from this.

The final technical problem in the Call Center was discovered on December 12, 2007. When a large volume of calls were routed to back-up telephone lines in St. Louis, some customers heard out-of-date up-front messages. The Company had failed to include back-up lines when making a program change to the primary lines. Once the error was identified, the changes were applied to the back-up lines also.

The situations caused by the technical problems in this outage were not noted in any of the comments filed by customers. It is hoped that the Company's quick response to identifying and resolving the issues did not affect many customers adversely.

The Company has implemented new policies that state when the Storm Center is activated, an Information Technology (IT) person is assigned to be on site at the Call Center during the course of the outage.

Company management has indicated that it is reviewing the use of 800 numbers and local numbers in an attempt to determine the most effective methods for the customer to contact the Call Center during both normal operating hours and during major electric outages.

# **Web Site**

A method of communicating with the customer that has seen growth throughout the country is the use of the Company Web site to provide billing, payment and outage information to the customer. AmerenUE has expanded and improved the use of this resource to provide better and more thorough information to the customer during the course of any outage. The customer may access general or more specific information on

the Company's Storm Center page on the Ameren.com web site. The information on the Storm Center page includes:

- Outage maps
- My Electric Outage
- Outage Restoration Trend
- Storms and Emergencies
- Emergency Preparedness
- Outage Tips
- Ameren's Storm Response
  - Planning and Preparation
  - Restoration Process
- Maintaining Your Service
- Trees and Your Service

Outage maps are now provided for both Missouri and Illinois service areas and are updated approximately every 10 minutes, as is the Outage Restoration Trend information. The number of outages reported and number of customers is displayed by zip code.

My Electric Outage is updated as data is received from the field and updated within the Outage Analysis System. The My Electric Outage function allows a customer to register with a UserID and a password and to then access information regarding the reported time of the outage, current status, cause and, if available, an estimate of restoration time.

More about My Electric Outage

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**Our Businesses** 

Careers

Outage Information Home Power Out? Call Us Storm Preparation Card Outage Tips Ameren's Storm Response Distribution System Maintaining Your Service Trees & Your Service Storm Center Links My Electric Outage

Outage Map-MO Outage Map-IL

# More about My Electric Outage

My Home

How to Sign Up to use My Electric Outage

My Business

You can usually determine the cause and estimated restoration time for your electric outage with My Electric Outage. Ameren customers who sign up online to create a UserID and Password can logon at work or from the home of a family or friend and determine if the power is on at their residence.\*

### When Power is On...

Sign in with your UserID and Password to access My Electric Outage. The information on the screen will indicate if the address associated with your account has power or not. Here's an example of My Electric Outage – Power On:

# My Electric Outage Information Account: 1234 Main Street 1234 Main Street POWER ON Mo current outage on record for this premise. This information does not show the status of area lighting that may be associated with this bill account. For general information on electricity outages, please visit Ameren's Outage Information site. If you are without power please follow our online directions. Outages restored in the last 48 hours: None Note: "momentary outages" -- those that last under a few minutes are not included in the above information. Learn more about momentary outages

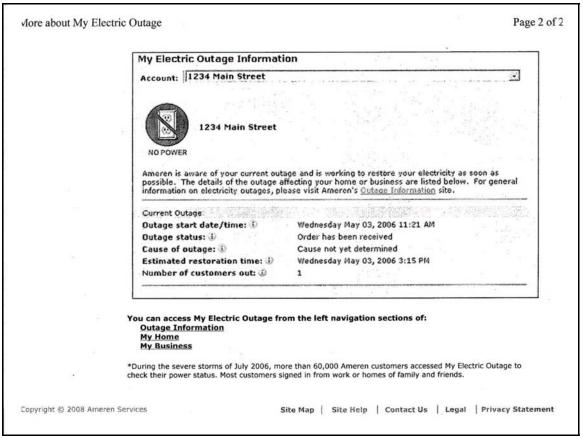
## When Power is Off...

My Electric Outage clearly indicates when power is off at the address of your account. Notice the red graphic in the example below! When power is off, additional information is provided in the Current Outage section. The Outage status data is updated as progress is made on the power restoration.

Use the "i" icons in the Current Outage section for more information.

If an Alert has been issued for your ZIP Code during a special or severe outage situation, you will immediately see the message after signing on to My Electric Outage. <u>About Alert Messages</u>.

Here's an example of My Electric Outage - Power Off:



Source: AmerenUE

Customers found the Web site particularly helpful and during the July 2006 thunderstorms that hit the St. Louis area, when over 60,000 Ameren customers registered on the My Electric Outage. Customers are able to immediately access more detailed and updated information by registering. Registrations also help to ensure a level of security for their residence by not releasing information to others regarding whether the power is on at a residence.

During the severe thunderstorms of July 2004, the Storm Center page had over 11,000 hits to the page over the course of the storm. The table on the following page illustrates the tremendous growth in the use of the web site for information.

**Daily Page Hits During December 2007 Storm** 

	12/09	12/10	12/11	12/12	12/13	Total
Outage Map	106,210	147,768	82,080	34,168	9,746	379,972
My Outage	13,460	31,387	36,888	14,380	2,681	98,796
Outage Restoration Trend	6,268	6,705	4,850	1,522	485	19,830

Source: AmerenUE

<u>Comparison</u> **Daily Average Hits Storm vs. Non-Storm** 

	Storm	Non-Storm
Outage Map	75,994	4,315
My Outage	19,759	197
Outage Restoration Trend	3,966	76

Source: AmerenUE

Staff believes the Web site continues to be a valuable resource for the customer and encourages the Company to continue to refine and expand its use.

# **Customer Comments and Complaints**

Customers that wish to issue a complaint or comment to the Commission regarding a company may do so through several methods. Customers may contact the Consumer Services Department at the Commission, via phone call, letter, the PSC Web site or the Commission's Electronic Filing and Information System (EFIS).

The following table illustrates the number and types of public comments received by EFIS regarding the AmerenUE storm outage.

Number and Percent of Ice Storm Comments Per Category				
Comment Toma	Number of	Percent Per Comment		
Comment Type	Comments	Category		
Positive Feedback	10	28.6%		
Storm Outage Concern	1	2.9%		
Infrastructure Maintenance	1	2.9%		
Repeat Outages	4	11.4%		
Storm Response	3	8.6%		
Tree Trimming	8	22.9%		
Tree Cleanup	2	5.7%		
Repair Quality	0	0.0%		
Credits	1	2.9%		
Bill Amount	0	0.0%		
Safety	0	0.0%		
Bury Lines	0	0.0%		
Call Center	1	2.9%		
Medical Registry	0	0.0%		
Estimated Response Time	0	0.0%		
Web	0	0.0%		
Customer Communication	4	11.4%		
Executive Management	0	0.0%		
Total	35	100.0%		

Ameren Storm Outage Comments Totals				
1,170,738				
26				
35				
0.03				

Source: MoPSC Staff/EFIS

During the storm outages in 2006, Staff received close to 300 complaints and public comments registered with the Missouri Public Service Commission from the date the storm began on July 19, 2006 through the end of August 2006. In addition, the Commission held public hearings throughout the Company's affected service territory to receive addition testimony regarding customer concerns. These hearings were well

attended by AmerenUE customers who testified regarding repeat outages, length of restoration and communications with the Company.

The comments and complaints filed by customers with the Commission are significantly lower in response to the December 2007 storm. There were no comments focused upon the provision of an estimate of restoration time. The majority of comments were positive, but many focused upon tree trimming, repeat outages and customer communications. It is also noteworthy that there were a significant number of positive comments made by customers and city officials regarding the Company's response to the outages.

The Company was reminded of the public comments filed in this case and did review the customer comments. Staff was provided with a response to 10 of the 26 comments filed. The responses included the results of the Company's review of the customer's service history and documentation of any personal contact the Company had with the customer to discuss their concerns. These comments represent an important indicator of the customer's experiences with the Company. Staff encourages the Company to, at a minimum, review the public comments filed in EFIS that occur following a major outage.

# 4. Recommendation: <u>Review customer comments in any EFIS filing</u> pertaining to the Company.

# **Medical and Special Needs Customers**

The Company has developed a list of Critical Customers which includes services such as fire, police, correctional institutions, and public water and sewage treatment plants. Health care institutions, as well as nursing homes, are included in the list. The Critical Customers Outage Web site is monitored during major storm events. The appropriate division is then notified to restore that customer as quickly as possible.

AmerenUE offers a Medical Equipment Registry program for its customers that depend upon electrically operated medical equipment. The Company utilizes a medical

equipment registry enrollment form to allow customers that require the use of electrically-operated medical equipment in their home to register with them. The form includes information that is to be completed by the customer's physician. Medical equipment is categorized as critical or cautionary. If classified as critical, a special tag is added to the meter to alert field personnel.

The letter sent to these customers clearly states that the Company cannot guarantee the provision of uninterrupted electric service and that the customer needs to develop a back-up plan to ensure their own safety and welfare. A confirmation letter is sent to the customer to confirm their registration. On an annual basis, these customers are sent a notice asking if they need to continue on this registry. The Company repeats its message that it cannot guarantee uninterrupted electric service in this notice. Once registered, there is a special note on that customer's account indicating they are on the medical registry.

At the present time, 2,243 customers are currently enrolled in the program. These customers, once enrolled, are given a special phone number to report an outage. This information is immediately conveyed to field crews to ensure the most expedient response possible.

Staff noted in the July 2006 Storm Report that many customers raised concerns during public hearings not just for their own circumstances during the outages, but also serious concern for special customer populations, such as the elderly and medical needs customers. These concerns led Staff to make a recommendation regarding the importance of a coordinated effort led by city and county agencies to facilitate the development of neighborhood watch groups to check on special needs customers during an extended outage. In its status report, the Company has indicated it has not taken any action on this.

Staff understands that it should be AmerenUE's first priority to restore service to customers during a major outage, regardless of medical needs.. However, Staff also believes that the Company can play a vital role prior to these outages to facilitate efforts to protect these customers and ensure they are not overlooked. Ideally, such advance

interaction and planning could be facilitated by an outreach or community relations function within the Company. Staff is encouraged by learning of the existence of some similar outreach programs in use at other utilities during major extended outages.

5. Recommendation: <u>Develop and utilize a Company community outreach</u> function to participate with city and county agencies in an active role in assisting citizens that have special needs during an outage.

# Communications with Customers and City, County and State Officials

Staff has made recommendations to AmerenUE in the past regarding its efforts to communicate with the general public and city, county and state officials. Staff reports on the Company's restoration efforts following major severe storms in 2004, 2005 and 2006 all contained recommendations focused upon improvements in the processes used by the Company to communicate with its stakeholders and officials.

Staff has noted improvements in the communication and interaction of the Company with SEMA and local county emergency operations centers. A direct phone number into the AmerenUE EOC has been given to the officials at SEMA. The Company also increased its communication with the media and other officials anticipating an extended outage. This increased communication and information assists officials and the public to plan better and take actions based upon the most current assessments of the extent of the outage.

Critical service providers such as fire and police services have been given a direct line into the Call Center that is answered by a call taker that can provide updated information.

AmerenUE always notifies Energy Department Staff immediately when their service area experiences a large outage. Information is provided to staff at least twice a day regarding the outage restoration efforts. Staff is always able to contact someone at

the Company when information is needed, regardless of the time of day. AmerenUE consistently provides requested information to Staff during the course of the restoration.

All media contact was handled through Ameren Corporate Communications in order to ensure a consistent and coordinated effort to communicate information to the public. City and county officials established contact points in the AmerenUE divisions that serve them. Whenever possible, AmerenUE division representatives will initiate contacts with city and county personnel during the restoration efforts.

Two examples of the benefits associated with this type of cooperation occurred during the recent December 2007 ice storm. Warren County Emergency Management Agencies had difficulty distinguishing between its cooperative customers and AmerenUE customers. A report is now being created to provide the county with the addresses of retirement centers, senior housing, and other high priority AmerenUE customers. This will assist the county in the future to determine who is providing the electric service to the facility.

In another instance, an AmerenUE field checker found the Clarksville communication tower was down. Once this was reported to the EOC via the AmerenUE employee, the repair was given a high priority. City officials have been alerted to bring these types of situations to the Company's attention immediately.

Ameren's EOC coordinated all formal communications regarding its restoration efforts during the outage. The Company participated in the SEMA conference calls twice a day. Informal communications were handled in the divisions. These communications included contacts with individual customers, businesses, critical customers and city/county administrators.

The Commission received several letters from city and county officials recognizing the efforts taken by AmerenUE during these December 2007 storms to maintain communications with them. Specifically, the City of Ashland, the City of Versailles, and the City of Eldon filed letters of appreciation with the Commission. In addition, a Jefferson City business leader also cited gratitude for the Company's efforts with a letter to the Commission.

Staff also spoke directly with Cole County Emergency Operations officials who appreciated the Company's division personnel on site presence at their county emergency operations center. These individuals believed the Company's assistance was critical in providing them with timely information regarding local services and restoration progress.

Staff did note the potential for further improvements in the Company's corporate communications efforts. This relates to the coordination, consistency and effectiveness of the messages being sent to the media and customers. Staff's concerns in these areas are consistent with information presented in the KEMA Report. This type of effort will assist the customer in being provided enough information with which to take some action to respond. For instance, if a customer receives information that the outage in their area is major and that it may take two to three days to restore power, that customer can analyze their particular situation and take action appropriate for them.

6. Recommendation: <u>Review the Company's Communications Plan with</u> respect to major outage restoration and develop a process to aid in delivering a consistent effective message to the public.

# **Vegetation Management**

The Commission's Electrical Corporation Vegetation Management Standards and Reporting Requirements, 4 CSR 240-23.030, will become effective on June 30, 2008. Staff maintains that revisions to current operating procedures will need to be made for the following sections of the Commission's Rule:

- 4 CSR 240-23.030(2) General Provisions
- 4 CSR 240-23.030(3) Maintenance Cycle
- 4 CSR 240-23.030(4) Technical Standards for Vegetation Management
- 4 CSR 240-23.030(5) Transmission Line Vegetation Management
- 4 CSR 240-23.030(6) Training, Record Keeping and Reporting
- 4 CSR 240-23.030(7) Public Notice of Planned Vegetation Management
- 4 CSR 240-23.030(8) Outreach Programs
- 4 CSR 240-23.030(9) Specific Requirements

7. Recommendation: Revise vegetation management procedures to incorporate the Commission's Electrical Corporation Vegetation Management Standards and Reporting Requirements, 4 CSR 240-23.030, which will become effective on June 30, 2008.

# **Infrastructure Maintenance**

The Commission's Electrical Corporation Infrastructure Standards, 4 CSR 240-23.020, which will become effective on June 30, 2008, are also expected to result in revisions to current operating procedures. Although portions of the Commission's Infrastructure Inspection Rule could be incorporated into existing procedures, Staff expects that AmerenUE will likely develop a new standard to incorporate the Commission's Infrastructure Inspection Rule.

8. Recommendation: <u>Revise operation standards to incorporate the Commission's Electrical Corporation Infrastructure Standards, 4 CSR 240-23.020, which will become effective on June 30, 2008.</u>