MISSOURI IS FALLING BEHIND:

How an Updated Regulatory Process Can Help Build a Smarter Energy Grid, Better Serve Customers & Hold Utilities Accountable

Background and History

The existing regulatory framework for Missouri's electric utilities was, in large part, developed more than 100 years ago. Since then the industry has changed dramatically and faces modern challenges that couldn't have been imagined a century ago. **To build a smarter energy grid and provide customers with the convenience, choices and controls they increasingly expect from their energy provider, Missouri's regulatory process needs to be modernized.**

During the first several decades of the electric industry's evolution, the primary challenge was constructing the electric system fast enough to meet the burgeoning demand for electricity. Service territories also were created, which prevented a jumble of poles and wires built by multiple competing companies in local communities, an efficiency that kept costs lower for consumers.

During the infancy of the industry, the rate case process took 11 months to allow for paper records to be gathered and for revenue requirements and rates to be calculated using adding machines. At this time the use of "historical test years" to set future rates arguably provided an adequate proxy because rapid growth in usage paid for the cost of the necessary investments to serve new customers and funded other cost increases. Moreover, in 1913 when the Missouri Public Service Commission (PSC) laws were enacted, deflation was just as likely as inflation. In fact, prices in the United States in 1913 were actually lower than they had been in 1800, further supporting the use of historical costs as a

In the decades after 1913, the regulatory model continued to work as a result of robust load growth. Electrification of homes, widespread use of electric lighting and the development of electric appliances drove that demand through the 1920s. In the 1930s, the Depression dampened electric load growth, but it also resulted in deflation, which lowered electric utility costs. In the decades after World War II, growth in population, expansion into new suburbs, additional electric appliances, and perhaps most significantly the widespread use of air conditioning continued to fuel reliable load growth year after year. In the 1980s and 1990s, the introduction of electronic devices and big screen TVs resulted in continued load growth.

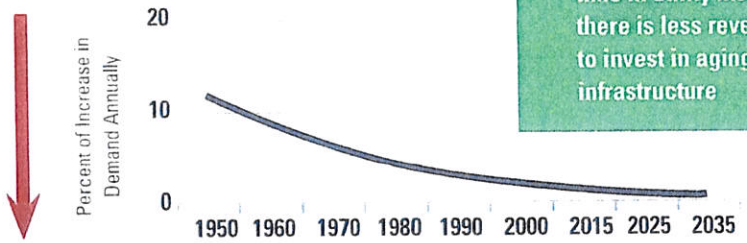
But in recent years, the electric industry has experienced a sea change. Electric utilities now operate in an environment with little or no load growth, and moderate inflation is persistent. As we face a critical need to replace and modernize aging infrastructure, we also are seeing increasing customer expectations at a time when rapidly evolving technology could materially change the landscape for vertically integrated utilities.

One thing is clear today: The regulations that worked in 1913 no longer work today. That's because these outdated policies do not facilitate optimal service for customers at a time when utilities need to ramp up investments while protecting their long-term financial integrity.

Electric usage is declining. That means fewer $ available to invest in a smarter grid. Regulatory reform to support investment would benefit customers and enable a stronger grid.

TODAY'S REALITY:

- **Homes, buildings, lighting and appliances are much more energy efficient**
- **Consumers are conserving more energy**
- **As a result, for the first time in utility history, there is less revenue to invest in aging infrastructure**

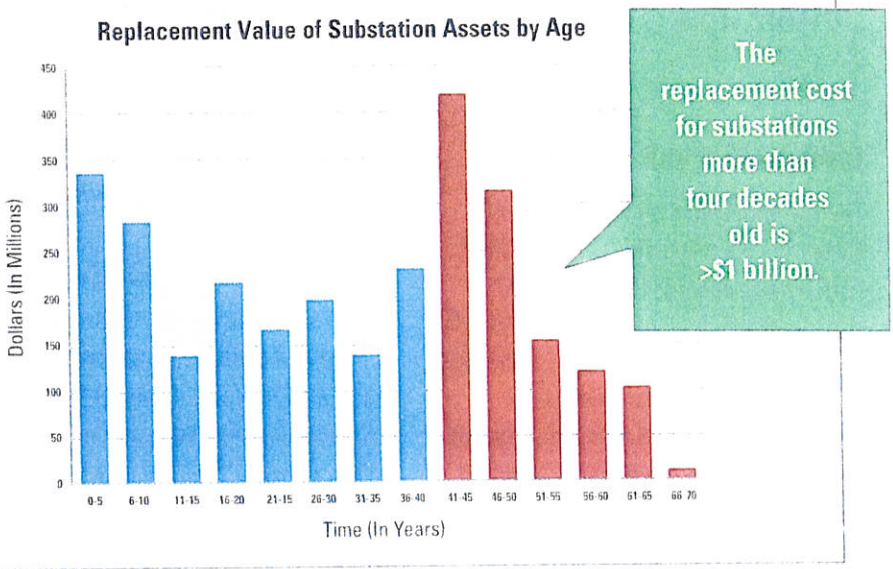


Source: Energy Information Administration

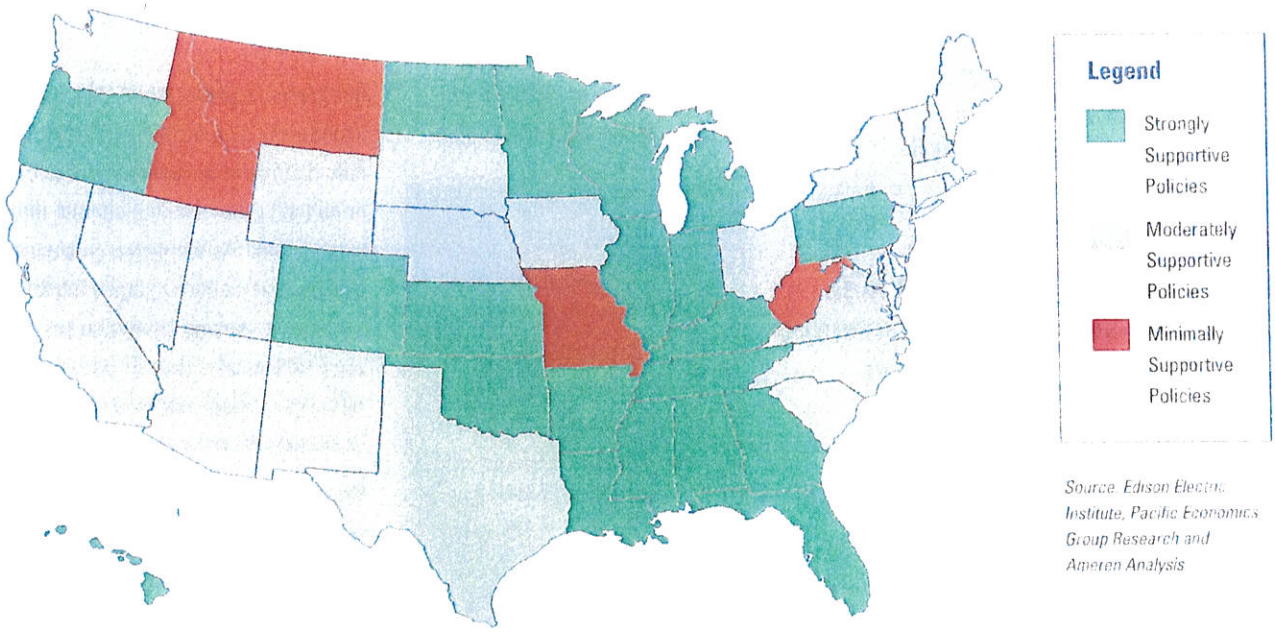
An example of an investment need in Missouri is illustrated at right, which highlights the more than 800 substations on Ameren Missouri's system. **The replacement cost of those substations that are four decades old or older is more than $1 billion.**

In short, Missouri's outdated energy policies are causing our state to fall behind when it comes to investing in our electric grid. This makes it more difficult to meet consumers' increasing expectations for affordable and dependable electricity AND it restricts our state's job growth and economic development. If Missouri is to keep up with other states, there is no question that the existing regulatory framework needs to be updated to address these modern challenges and opportunities.

The grid is aging. Missouri needs to update century-old regulations to encourage investment in a smarter, stronger grid.



State Comparison of Electric Utility Mechanisms for Infrastructure Investments



Source: Edison Electric Institute, Pacific Economics Group Research and Ameren Analysis

Despite these facts, in recent years there have been some who argue that everything is going fine and there is no need to change a century-old regulatory process. This "everything is OK" view fails to assess not only the recent landscape, but factors we need to address and plan for in the years to come in light of new technology and increasing customer expectations. In the following sections we explain why some of these arguments do not withstand scrutiny.

Rates and Regulatory Reform

One such argument for the status quo is "Rates are low, so there is no need to change." It is true that Ameren Missouri is the lowest-cost energy provider in Missouri with electric costs that remain about 20% below the national average. But over the last decade the electric costs in Missouri have increased faster than almost any other state. Let's look specifically at the data.

On Aug. 24, 2016, a lobbyist representing the Missouri Industrial Energy Consumers (MIEC) testified before the Senate Interim Committee on Utility Regulation and Infrastructure Investment. Part of the group's message was that electric costs remain low – citing June 2016 data from the U.S. Energy Information Administration (EIA). The conclusion: The fact that rates are low in Missouri means the current regulatory framework, established in 1913, must be working fine. *This assessment does not withstand additional scrutiny.*

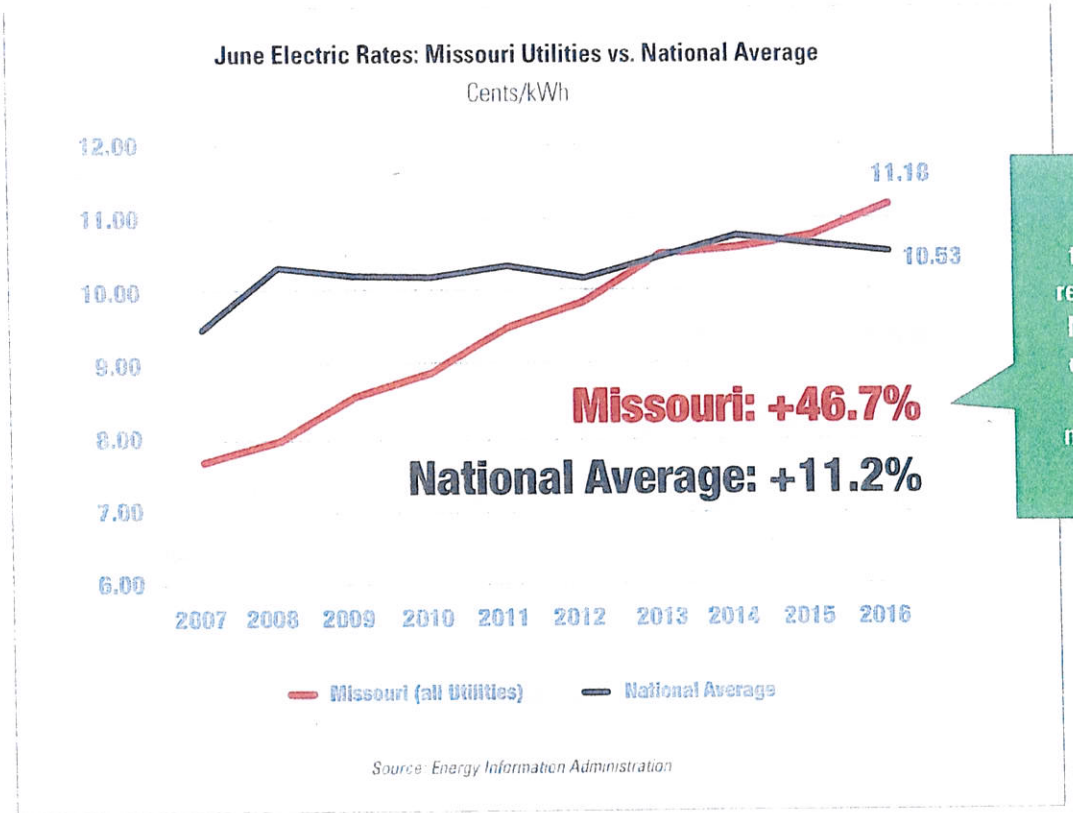
Under the current system, Missouri's electric rates are going up more quickly than the national average, and our state is on track to lose its low-cost advantage. A comparison of electric rates from 2007 to 2016 reveals the following trend line:

- **Today in the United States, four states have not updated their utility laws (Missouri, Idaho, West Virginia and Montana). Three of these four states have had the most significant electric rate increases during the time period shown on the table on the next page.**
  - West Virginia, 70% increase
  - Idaho, 64.1% increase
  - Missouri, 46.7% increase
- **Compare this to states that have some version of performance-based rates or have implemented other significant regulatory reforms.**

Those states had more stable and predictable cost adjustments, yet moved forward with grid modernization:

  - Florida, -2.8%
  - Mississippi, 6%
  - Alabama, 24.5%
- From 2007 to 2016 Missouri's electric costs (inclusive of all electric utilities in the state) increased faster than 47 other states, increasing 46.7%. **This increase is four times the national average.**

The numbers speak loud and clear: Missourians want stable and predictable electric costs, but the current 100-year-old process is volatile, unpredictable and has done little to limit how fast rates have gone up.



Due in part to a century-old regulatory system, Missouri energy costs have risen four times the national average.

Changes in Electric Rates in the 50 States Since 2007

		June 2007/¢/kWh			June 2016/¢/kWh			Increase
1	West Virginia	5.14	1	Louisiana	7.05	1	Texas	-20.2%
2	Idaho	5.16	2	Washington	7.57	2	Louisiana	-15.6%
3	Wyoming	5.27	3	Oklahoma	8.02	3	Nevada	-12.6%
4	Washington	6.22	4	Wyoming	8.29	4	New York	-7.2%
5	Kentucky	6.27	5	Kentucky	8.42	5	New Jersey	-4.4%
6	Indiana	6.46	6	Arkansas	8.44	6	District of Columbia	-4.4%
7	Nebraska	6.69	7	Texas	8.44	7	Delaware	-3.9%
8	North Dakota	6.76	8	Idaho	8.47	8	Maine	-3.0%
9	Arkansas	6.78	9	West Virginia	8.74	9	Florida	-2.8%
10	Oregon	6.84	10	Nevada	8.82	10	Maryland	0.2%
11	Utah	6.96	11	Oregon	8.82	11	Massachusetts	3.8%
12	South Dakota	7.03	12	Mississippi	8.83	12	Oklahoma	5.4%
13	Iowa	7.10	13	Indiana	9.06	13	Illinois	5.7%
14	Tennessee	7.14	14	Montana	9.15	14	Mississippi	6.0%
15	South Carolina	7.22	15	Tennessee	9.29	15	Pennsylvania	7.8%
16	Virginia	7.28	16	North Carolina	9.31	16	New Hampshire	8.1%
17	New Mexico	7.50	17	Illinois	9.32	17	Connecticut	8.5%
18	Kansas	7.54	18	North Dakota	9.45	18	Hawaii	14.8%
19	Oklahoma	7.61	19	New Mexico	9.51	19	Montana	19.1%
20	**Missouri**	**7.62**	20	Virginia	9.63	20	California	19.5%
21	North Carolina	7.68	21	Nebraska	9.69	21	Ohio	20.3%
22	Montana	7.68	22	Utah	9.71	22	Rhode Island	20.6%
23	Alabama	7.92	23	Ohio	9.77	23	Vermont	20.8%
24	Minnesota	8.08	24	Alabama	9.86	24	North Carolina	21.2%
25	Ohio	8.12	25	Florida	10.01	25	Washington	21.7%
26	Colorado	8.17	26	Pennsylvania	10.04	26	Georgia	23.0%
27	Georgia	8.23	27	South Dakota	10.10	27	Arkansas	24.5%
28	Mississippi	8.33	28	Minnesota	10.12	28	Alabama	24.5%
29	Louisiana	8.35	29	Georgia	10.12	29	Minnesota	25.2%
30	Wisconsin	8.74	30	South Carolina	10.13	30	Michigan	25.5%
31	Illinois	8.82	31	Iowa	10.20	31	Arizona	25.7%
32	Arizona	8.82	32	Colorado	10.30	32	Colorado	26.1%
33	Michigan	8.88	33	Kansas	10.93	33	New Mexico	26.8%
34	Pennsylvania	9.31	34	Delaware	11.05	34	Oregon	28.9%
35	Nevada	10.09	35	Arizona	11.09	35	Wisconsin	30.1%
36	Florida	10.30	36	Michigan	11.14	36	Tennessee	30.1%
37	Texas	10.57	**37**	**Missouri**	**11.18**	37	Virginia	32.3%
38	Delaware	11.50	38	Wisconsin	11.37	38	Kentucky	34.3%
39	Vermont	12.02	39	District of Columbia	11.85	39	Utah 39.5%	
40	Maryland	12.31	40	Maryland	12.33	40	North Dakota	39.8%
41	District of Columbia	12.39	41	Maine	12.45	41	Indiana	40.2%
42	Maine	12.83	42	New Jersey	14.21	42	South Carolina	40.3%
43	Alaska	12.86	43	Vermont	14.52	43	Iowa 43.7%	
44	Rhode Island	13.28	44	New York	15.00	44	South Dakota	43.7%
45	California	13.59	45	New Hampshire	15.16	45	Nebraska	44.8%
46	New Hampshire	14.02	46	Rhode Island	16.02	46	Kansas	45.0%
47	New Jersey	14.87	47	Massachusetts	16.04	47	Alaska	45.8%
48	Massachusetts	15.46	48	California	16.24	**48**	**Missouri**	**46.7%**
49	New York	16.17	49	Connecticut	17.63	49	Wyoming	57.3%
50	Connecticut	16.25	50	Alaska	18.75	50	Idaho	64.1%
51	Hawaii	20.81	51	Hawaii	23.90	51	West Virginia	70.0%
	U.S. Total	9.47		U.S. Total	10.53		U.S. Total	11.2%

Footnotes:

All Sector Data from Energy Information Administration (EIA.Gov)

June 2007 through June 2016

- The Purchased Gas Adjustment (PGA) charge for gas utilities is set based on some projected data and allows for 100 percent recovery of prudently incurred gas costs. In contrast, the electric Fuel Adjustment Clause (FAC) is based on historic data and allows for recovery of only 95 percent of the change in net energy costs between rate cases.
- Rates of return on equity (ROE) for gas utilities have on occasion been set at a high level compared to the national average. For example, in File No. GR-2014-0152 decided in December 2014, Liberty Utilities was granted an authorized ROE of 10%. In contrast, in their most recent cases, Ameren Missouri and Kansas City Power & Light Company were granted authorized returns of 9.53 percent and 9.5 percent respectively, well below the national average for integrated electric utilities, which is generally considered to be a riskier business than the natural gas utility business.

The point is not that Missouri's regulation of gas utilities is perfect or to imply that there should not be improvements to the regulatory structure for natural gas utilities. There are some improvements to gas utility regulation that would be warranted and that Ameren Missouri has supported and will continue to support. **But Missouri's gas utilities do not face the same level of difficulty with regulatory lag and unrecovered fixed costs that Missouri's electric utilities face. Moreover, in general Missouri's gas utilities do not face the same wave of critical investment needs because their systems have been, to a larger degree than electric utilities, replaced and upgraded in the past decade or so with the help of the ISRS statute.**

Recent comments from RRA bear this out. In its July 21, 2016, publication of State Regulatory Evaluations, RRA stated:

> "RRA is maintaining its Average/2 ranking of the Missouri jurisdiction at this time, but is mindful of the fact that the 2016 legislative session concluded without action being taken on a bill that would have altered the state's ratemaking framework to address 'regulatory lag.' The issue is of particular concern to Missouri's electric utilities, and the matter is now being considered both by an interim legislative committee and the PSC. Although the utilities are generally supportive of potential changes to the regulatory paradigm, recent comments from the public counsel were dismissive of regulatory lag concerns. ***Should the legislature or PSC fail to take action to address these concerns, a reduction in the ranking may be justified.*** (emphasis added)" (See Appendix A, pp. 1-2)

Clearly the outcome of this proceeding, and the legislative committee hearings, are being carefully watched by RRA to see if regulatory lag for electric utilities is addressed.

Investor services companies, better barometers of investor sentiment than RRA, have also recognized the difficult regulatory environment Missouri electric utilities face, and the opportunities for improvement. For example, in a "Sector In-Depth" report published on Nov. 5, 2015, Moody's Investors Service listed Missouri in a category of "less credit-supportive" states that included New Mexico, Kansas, and Montana.

Moody's said that electric utilities in Missouri face greater regulatory lag compared with most electric utilities in most other states that are considered credit-supportive because:

- There are limited opportunities for interim rate adjustments.
- The use of a historical test year in rate cases contributes to longer lag times.
- Historically, allowed returns on equity in Missouri are lower than industry average.
- Other types of utilities in Missouri have shorter lag times.

Moody's analysis was reflected in its Credit Opinion for Ameren Missouri issued one month later, on Dec. 8, 2015, in which it stated: "We consider Missouri's regulatory environment to be stable but still challenging as it has limited interim base rate recovery mechanisms, resulting in longer regulatory lag, and tends to be more litigious . . . Examples of the MPSC's limited credit supportiveness include a lack of a forward test year, the inability to include construction work in progress (CWIP) in rate base, and no tracker for capital investments for electric utilities."

Other credit rating agencies' reports reference similar problems. For example, in a Full Rating Report issued by Fitch Ratings earlier this year, the challenging regulatory environment in Missouri was cited. Fitch stated: "Regulatory lag due to the use of an historical test year in setting rates, the absence of CWIP in rate base, and an extended review period, remains a credit concern."

On a more positive note, investor services companies have recognized that an improvement in the regulation of electric utilities in Missouri is possible. Both Moody's and Fitch recognize that possibility in their reports. In addition, **Wolfe Research, a well-respected investor research organization, specifically cited the existence of this proceeding and the Senate Interim Committee on Utility Regulation and Infrastructure Investment meetings as positive signs that improvements to Missouri's regulation of electric utilities could be forthcoming.** The bottom line is that, RRA and investor services organizations recognize the problems that regulatory lag is causing Missouri's electric utilities and the opportunities that Missouri has to address these issues; which will benefit all stakeholders, including Missouri's consumers.

Reliability and Regulatory Reform

Another argument that misstates the need to reform our outdated regulatory system: *"Reliability is high, so there is no need to change."*

While it's true that Ameren Missouri has worked to keep reliability high, additional context is helpful to understand measures associated with electric service dependability for customers. The Missouri Public Service Commission's (PSC) infrastructure rules require that we track certain metrics, including:

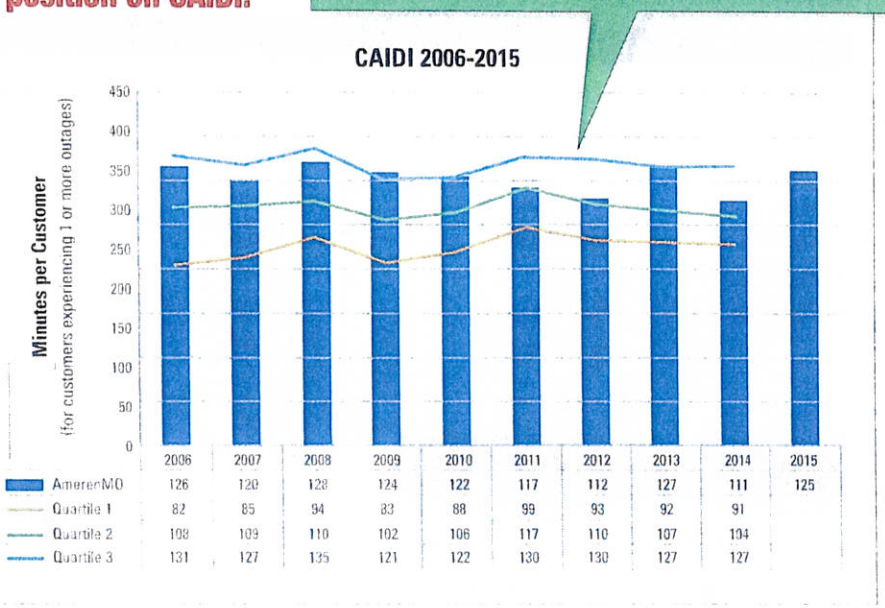
- **SAIDI** (System Average Interruption Duration Index), which measures the average outage duration in minutes experienced by all customers served by the distribution system. A SAIDI of 60 would indicate that on average each customer served would have experienced 60 minutes of outage time in the year.
- **SAIFI** (System Average Interruption Frequency Index), which measures the average number of outages experienced by all customers served by the distribution system. A SAIFI of 1.0 would indicate that, on average, each customer served would have experienced one power outage in the year.
- **CAIDI** (Customer Average Interruption Duration Index), which measures the average outage duration in minutes experienced by those customers who actually experienced one or more outages. A CAIDI of 60 would indicate that each outage experienced by those customers would average 60 minutes in duration.

  There is also another common industry metric that we rely upon to assess reliability

Outage Minutes Per Customer 2006-2015

Ameren Missouri has a third quartile position on CAIDI.

This indicates that customers are out of service for longer durations than customers taking service from more than half of Ameren Missouri's peer electric utilities. This is a symptom of a grid that is aging. A modernized grid allows a utility to identify and correct faults on the system more quickly.



- **$CEMI_3$** (Customers Experiencing Multiple Interruptions), which measures the percentage of all customers served by the distribution system who experienced three or more outages. A $CEMI_3$ of 10 percent would indicate that 1 in 10 customers would have experienced 3 or more outages in the year.

While Ameren Missouri is pleased that our performance ranges from the top half to the top quarter of our peers on three of these four metrics, looking at these numbers holistically indicates that there are pockets where our reliability is not where we would like it to be. For example, although our $CEMI_3$ metrics compare favorably to our peers, there are still a significant number of customers who experience three or more outages per year. Moreover, when outages occur, our third quartile position on CAIDI indicates that customers are out of service for longer durations than customers taking service from more than half of our peer electric utilities.

Both of those results are symptoms of a grid that is aging, and of a grid that would benefit from modernization.

- **A modernized grid generally allows the utility to identify and correct faults on the system that cause outages more quickly.**
- **A modernized grid allows for faster restoration of service because smart devices allow the utility to locate problems on the system more quickly and perform automatic switching to restore power to customers in a matter of seconds. This is quicker than dispatching a lineman to the field to visually identify the problem and perform the switching manually.**
- **A modernized grid could actually prevent some outages from occurring in the first place.**

Credit Ratings and Regulatory Reform

We've heard some opponents of regulatory reform incorrectly say: *"Utility financing and credit ratings are strong, so no improvement is needed."*

2015 U.S. Ranking of State Regulatory Policies

Lowest Cost of Capital (More Constructive Regulatory Policies) ⟷ **Highest Cost of Capital** (Less Constructive Regulatory Policies)

Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
• FERC	• Idaho	• South Carolina	• **Missouri**	• Vermont
• Michigan	• Florida	• New Jersey	• New York	• Maine
• Wyoming	• North Carolina	• Kansas	• District of Columbia	• Maryland
• Wisconsin	• Indiana	• Alabama	• Hawaii	• New Hampshire
• Virginia	• Arkansas	• California	• South Dakota	• Connecticut
• Kentucky	• Iowa	• North Dakota	• West Virginia	• Montana
• Colorado	• Tennessee	• Washington	• Texas	
	• Georgia	• Minnesota	• Mississippi	
		• Oklahoma	• Rhode Island	
		• Louisiana		
		• Pennsylvania		
		• Delaware		
		• Utah		
		• New Mexico		
		• Illinois		
		• Arizona		
		• Nevada		
		• Oregon		
		• Massachusetts		
		• Ohio		

Credit Rating	Moody's
Ameren Illinois	A3
Ameren Missouri	Baa1

Source: Barclays North American Utilities – 2015 Regulatory rankings – April 20, 2015

Updating the century-old regulatory system in Missouri could improve credit ratings, which would save $ for Missouri electric customers. Strong credit ratings help keep borrowing costs down, which helps keep rates lower.

A few stakeholders have cited the Regulatory Research Associates (RRA) ranking of the Missouri regulatory environment as "A2"—meaning average—as support for the position that substantive improvements to Missouri's regulation of electric utilities are unnecessary. For example:

- The **Midwest Energy Consumers' Group's** (MECG) initial comments state: *"Clearly, given this A2 rating, the Missouri Commission is fulfilling its duty to balance the interests of utility shareholders and customers."*
- Similarly, **Missouri Industrial Energy Consumers'** (MIEC) initial comments state: *"This [the A2 rating] is reflective of the balance that the Missouri regulatory process has achieved. . . . It is certainly important to recognize that from an investor point of view, Missouri's regulatory process is considered to be constructive."*

Ameren Missouri believes these views are based on a clear misinterpretation of the RRA ranking.

Why? First, the RRA ranking is based on the regulatory environment in Missouri as applicable to all utilities—electric, natural gas and water included. As the owner of both an electric and gas utility, Ameren Missouri knows that gas regulation in Missouri provides some benefits not available to the electric industry. In particular:

- The Infrastructure System Replacement Surcharge (ISRS) that is available to gas and water utilities greatly reduces regulatory lag for the capital projects to which it applies. ***No such mechanism is available for electric capital projects.***
- The rate design in effect for gas utilities ensures that a substantial portion of fixed costs are recovered through fixed charges—either a customer charge or a first block usage charge that nearly all customers' usage exceeds every month. In contrast, almost all fixed costs of electric utilities are recovered through variable charges, making them vulnerable to under-recovery when loads drop.