

PSC *Connection*

Missouri Public Service Commission Publication

VOL. 2 NO. 5 -- DECEMBER 2012

SAFE & SECURE

Cybersecurity:
Guarding Against
Threats To Utilities



Chairman's Corner

Welcome to this edition of the PSConnection. This issue starts our third year of the publication and we hope that you find the magazine and the topics contained within each edition interesting and of value.

In April 2013, the Missouri Public Service Commission will recognize 100 years of service to the citizens of Missouri. We hope that you will take time to read the article **It All Started 100 Years Ago** in this edition of the magazine. Changes are occurring all the time in utility regulation and we continue to meet those challenges with a great deal of hard work and enthusiasm; knowing that the decisions we make will have a great impact on the citizens and economy of our state ---today and in the future.

When a hacker or a virus gets into your computer at home, the consequences can be devastating. Now imagine if that same thing were to happen to your utility company and its computer systems. The effect could cripple the electric grid, causing outages as well as stealing confidential information. We take a look at this issue in our feature article **Keeping The Lights On: Building Up Cybersecurity** written by Commissioner Terry Jarrett.

In 2009, the Missouri legislature passed and Governor Nixon signed into law the **Missouri Energy Efficiency Investment Act (MEEIA)**. The purpose of this law is to encourage investor-owned electric utilities such as Ameren Missouri, The Empire District Electric Company, KCP&L-Greater Missouri Operations Company and Kansas City Power & Light Company to develop and implement energy efficiency programs. Commission rules implementing MEEIA took effect in May of 2011. So what is MEEIA and why should consumers be interested in this topic? We will explain in an article in this edition of the magazine.

The Cold Weather Rule has been a part of our rules and regulations since 1977. With cold weather here, it's important to know what the rule means to you when trying to pay your heat-related utility bill. Winter energy saving tips and information on what to do in case of an emergency or if you smell natural gas are also in this issue.

We hope that you find this edition of PSConnection informative. Please feel free to share your thoughts about the magazine and give us your suggestions on future topics. Our toll-free hotline number is **1-800-392-4211**.



Kevin Gunn

PSConnection

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The Missouri Public Service Commission regulates investor-owned electric, steam, natural gas, water and sewer and telephone companies. Its mission is to ensure Missouri consumers have access to safe, reliable and reasonably priced utility service while allowing those utility companies under our jurisdiction an opportunity to earn a reasonable return on their investment. The PSC also regulates manufacturers and retail dealers who sell new and used manufactured homes and modular units. The Commission was established in 1913. The PSC is comprised of five commissioners, who are appointed by the governor.



IT ALL STARTED 100 YEARS AGO

Next year, the Missouri Public Service Commission will celebrate its 100th anniversary. Here's a quick overview of how it all started. Please see page 13.



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Federal and state agencies are working to protect critical infrastructure and help keep the lights on.

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Winter is coming. You can take steps to prepare for the colder temperatures that are expected to hit the Midwest.

Our Mission

To ensure that Missourians receive safe and reliable utility service at just and reasonable rates.



On The Cover

More and more, we rely on computers for everyday functions such as paying bills. It is important that these interconnected networks, routers and servers are secure. With that in mind, utilities are also working to protect critical infrastructure through cybersecurity.



Security of the power grid has been a hot topic in the news lately. Consider some recent media headlines:

- *“Chinese Hackers Linked To Breach of Canadian Energy Giant,”* (redorbit.com, September 28, 2012);
- *“Feds: Power Grid Vulnerable to ‘Fast-moving Cybersecurity Threats,’”* (CNET, August 28, 2012);
- *“Energy Grid: Safe from Cyber Attack?”* (Discovery News, May 9, 2012);
- *“Power Grid Updates Left System Vulnerable to Cyber Attacks,”* (Washington Post, February 7, 2012); and
- *“Power-Grid Cyber Attack Seen Leaving Millions in Dark for Months,”* (Bloomberg, January 31, 2012).

Keeping The Lights On: **BUILDING UP CYBERSECURITY**

By Commissioner Terry M. Jarrett

Cyber threats against the power grid are not just a theoretical discussion topic—attacks have already occurred. As noted above, in September 2012, a team of Chinese hackers reportedly breached a Canadian energy company’s network. The hackers breached the company’s internal firewall and security systems, implanted malicious software and stole project files. The company said that it is actively working with law enforcement, security specialists and its affected customers to ensure the breach has been contained.

In November, 2011, Tech News Daily reported that a lone hacker penetrated the network of a South Houston, Texas, water-treatment plant to expose the inherent vulnerabilities in critical industrial control facilities and prove how easily they can be compromised. “No damage was done to any of the machinery; I don’t like mindless vandalism,” he wrote. “It’s stupid and silly. On the other hand, so is connecting interfaces to your [industrial control systems] to the Internet.” The hacker added, “I wouldn’t even call this a hack, either, just to say. This required almost no skill and could be reproduced by a two year old with a basic knowledge [of industrial control systems].”

Author Brian Krebs, citing a May 27, 2010, FBI Intelligence Bulletin, reported that a series of hacks against smart meters may have cost a Puerto Rico electric utility \$400 million annually over the past several years. The FBI believes that former employees of the meter manufacturer and employees of the utility were altering the meters in exchange for cash and training others to do so. "These individuals are charging \$300 to \$1,000 to reprogram residential meters, and about \$3,000 to reprogram commercial meters," the alert states. The thieves were able to hack into the smart meters with their laptop computers using software downloaded from the Internet. Once they altered the settings in the meters for recording power, customers were able to steal power from the utility.

According to the Department of Homeland Security (DHS), America's water and energy utilities face constant cyber-espionage and denial-of-service attacks against industrial control systems. While almost all of these attacks have either failed or have only been minor inconveniences to date, DHS believes that it is only a matter of time before a cyber attack has more serious consequences.

Utility-owned critical infrastructure has become more difficult to protect because it is not just the physical assets that need protecting anymore. When we talk about cybersecurity and infrastructure, we are referring to the cybersecurity of not only the physical distribution and transmission grids, substations and offices, but also equipment and systems that communicate,

When we talk about cybersecurity and infrastructure, we are referring to the cybersecurity of not only the physical distribution and transmission grids, substations and offices, but also equipment and systems that communicate, store and act on data.

store and act on data. As the power grid is updated and modernized to include more computer networks, control systems and smart grid technology, the opportunity increases for computer hackers to cause mischief. While many of these hackers may not have a malicious intent, others may want to steal money or confidential information (like credit card numbers) or shut down the grid entirely. Under a worst case scenario, a

Simple steps to help protect your online information

Computers are an integral part of the power grid. But, we also use the Internet to stay connected and informed. We rely heavily on the Internet for everything from submitting taxes, to applying for student loans, to following traffic signals, to even powering our homes. Securing online data is important to protect personal information.



Americans can follow simple steps to keep themselves, their personal assets, and private information safe online.

Here are a few tips all Internet users can do to practice cybersecurity:

- Set strong passwords and don't share them with anyone.
- Keep your operating system, browser, and other software optimized by installing updates.
- Use antivirus software.
- Limit the amount of personal information you post online and use privacy settings to avoid sharing information widely.
- Don't open any suspicious e-mails or attachments.

-- U.S. Department of Homeland Security

successful cyber attack could disrupt our economy and national security.

The Federal government has taken a number of steps to beef up cybersecurity oversight. On September 20, 2012, the Federal Energy Regulatory Commission (FERC) announced the creation of a new FERC office that will help FERC focus on potential cyber and physical security risks to energy facilities under its jurisdiction. The new Office of Energy Infrastructure Security (OEIS) will provide leadership, expertise and assistance to FERC to identify, communicate and seek comprehensive solutions to potential risks to FERC-jurisdictional facilities from cyber attacks and such physical threats as electromagnetic pulses. Additionally, for some time Congress has been considering cybersecurity legislation.

Likewise, protecting the grid and sensitive consumer information is an important function for the Commissioners at the Missouri PSC. State commissioners are responsible for ensuring that regulated utilities provide safe and reliable service at just and reasonable rates. Cyber attacks threaten safe and reliable service and the cost of implementing cybersecurity measures affect utility rates. Therefore, we need to know that our regulated utilities in Missouri are aware of the cyber threat issues and are taking reasonable steps to protect their systems in the event of cyber attacks.

Cybersecurity is really a three-pronged approach. First, utilities need a set of tools to prevent a cyber attack in the first place. Such preventative strategies involve not only traditional security controls, like performing background checks on employees, but also use new technologies, much like antivirus software that you would install on your personal computer. Sec-

ond, utilities must collaborate with other utilities to learn about the different kinds of threats out there as well as share best practices to combat them. Third, should a cyber attack succeed, our utilities must be resilient in quickly responding to and effectively recovering from such an attack, just like utilities have had to do with natural disasters for decades.

Recently, the Missouri PSC opened a workshop to obtain information from our regulated electric utilities about their cybersecurity activities. We asked a series of 47 questions so that we can comprehensively evaluate what the utilities are doing to keep their systems safe from cyber threats. We have received responses from all of them and our staff currently is evaluating those responses. Once we have had a chance to review the information, we will have a better picture of our electric utilities' preparedness for cyber threats, and can take appropriate steps if they are falling short in any way.

At the end of the day, we want Missouri consumers to have confidence that our utilities are doing the right things to keep confidential customer information safe from theft and keep the power grid protected and reliable. We want to make sure that the lights are kept on.



Commissioner Terry M. Jarrett has served on the Missouri Public Service Commission since 2007. He is chairman of the National Association of Regulatory Utility Commissioners (NARUC) Critical Infrastructure Committee.

The Missouri Energy Efficiency Investment Act

Encouraging customers to use less electricity, reducing the need to build more power plants

By Martha Wankum and John Rogers

Historically, Missouri's electricity has come from numerous resources including electricity generating plants powered by a variety of primary energy sources - supply-side resources - to meet the annual electricity requirements of customers - demand. Missouri has relied upon coal powered generating plants to meet most of its annual electricity requirements and upon coal and natural gas powered generating plants to meet its peak electricity capacity needs (times when electricity is in high demand). Due to the uncertainty of future annual electricity requirements and peak electricity capacity needs and the uncertainty of future environmental regulations, future fuel prices and the cost of building and operating new generating plants, it is important that Missouri consider all available supply-side and demand-side resources -- energy efficiency and demand response -- when planning for and meeting the future electricity needs of the state.

What are "Utility Demand-Side Resources?"

Energy Efficiency refers to permanent changes to electricity usage through installation of or replacement with more efficient end-use devices or more effective operation of existing devices that reduce the quantity of energy needed to perform a desired function or service. Energy efficiency programs are designed to primarily reduce energy (kWh). Examples of energy efficiency programs may include encouraging customers to use more efficient light bulbs or to purchase a new refrigerator by offering various incentives such as monetary rebates.

Demand Response refers to changes in electric usage by end-use customers from their normal consumption patterns in response to changes in the price of electricity over time, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized. Demand response programs are designed to primarily reduce peak demand (kW). Examples of demand response programs include providing incentive payments to customers to reduce their consumption of energy during periods of peak demand or when market prices for energy are very high.



What is the Missouri Energy Efficiency Investment Act?

The Missouri Energy Efficiency Investment Act (MEEIA), section 393.1075 RSMo Supp. 2010, was passed by the Missouri legislature and signed by Governor Jeremiah (Jay) Nixon in 2009. MEEIA is designed to encourage investor-owned electric utilities to develop and implement demand-side resources with a goal of achieving all cost-effective demand-side savings (savings in annual electricity requirements and peak electricity capacity needs).

Under MEEIA, the Missouri Public Service Commission (Commission) is required to permit electric utilities to implement and recover costs related to Commission-approved demand-side programs if the programs are expected to - over time - achieve all cost-effective energy savings and lower customers' bills.

The Commission's Role in Implementing MEEIA

During 2009 and 2010, the Commission's Staff organized a stakeholder process, including a series of three workshops, facilitated by the Regulatory Assistance Project, to obtain broad input from investor-owned electric utilities, the Office of Public Counsel, the Missouri Department of Natural Resources, customers, consumer advocates and various other groups concerning MEEIA and to draft administrative rules to implement MEEIA (File No. EW-2010-0265). The Commission crafted four rules designed to implement MEEIA and allow electric utilities to recover costs and to provide financial incentives and timely earnings opportunities associated with cost-effective demand-side savings. (File No. EX-2010-0368). The MEEIA rules became effective May 30, 2011.

Two of the administrative rules (4 CSR 240-20.094 and 4 CSR 240-3.164) address demand-side programs under MEEIA, and set forth the requirements and procedures for filing and processing applications for approval, modification,

and discontinuance of electric utility demand-side programs. The rules also set forth the information that an electric utility must provide to the Commission when it seeks approval, modification or discontinuance of demand-side programs.

An electric utility may file an application with the Commission for approval of individual demand-side programs or for an entire plan. The Commission is required to make a determination regarding applications within a specified timeframe after providing the opportunity for a hearing.

Electric utilities are required to file applications to modify demand-side programs when there is a 20 percent or more variance in the total program budget or if the program design is significantly modified. An electric utility may also file an application with the Commission to discontinue demand-side programs. Once again, the Commission is required to make a determination within a set time period after providing the opportunity for a hearing.

Examples of Residential Energy Efficiency Programs

Program	Description
Lighting	Incentives paid to retail partners to discount the price on high efficiency lighting products
Energy Efficiency Products	High efficiency water heaters, window air conditioners and smart strips will be promoted through rebates and incentives
Heating, Ventilation and Air Conditioning	Diagnostics/tune-up, retrofit, and replacement upgrades for air conditioners, heat pumps and cooling systems
Refrigerator Recycling	Incentives paid to remove inefficient refrigerator or freezer, pick up and recycling and disposal of old units
Home Energy Performance	Energy assessment, direct install measures and cost effective follow up measures
ENERGY STAR New Homes	Targets builders and energy raters with incentives for construction of ENERGY STAR homes
Low-Income	Delivers energy savings to low income qualifying customers through direct install measures and appliances

How Do You Measure the Cost-Effectiveness of Demand-Side Programs?

Energy efficiency programs must be cost-effective, unless the programs are targeted to low-income customers, are for general education campaigns or if the programs are funded by the customers participating in the programs or through tax or other governmental credits.

The Commission has established incremental annual energy and demand savings goals to serve as a guideline to review progress toward the expectation that the electric utility's energy efficiency programs will provide all cost-effective demand-side savings. The goals are not mandatory and there are no penalties assessed to a utility that is unable to achieve those goals.

Who Provides Input into Planning for Supply-Side and Demand-Side Resources?

The MEEIA rules establish both utility-specific collaborative groups and a state-wide collaborative group. Each electric utility is required to form an advisory collaborative that includes members of the Commission Staff, the Office of Public Counsel, the Missouri Department of Natural Resources, consumer advocates and various other groups (stakeholders) for input on the design, implementation, and review of energy efficiency programs. Utility specific collaborative meetings are encouraged to occur at least once each calendar quarter.

All electric utilities, the Commission Staff and stakeholders are also required to form a state-wide advisory collaborative to provide the opportunity for the sharing of lessons learned from energy efficiency program planning and implementation and to create a forum for discussing statewide policy issues. Statewide collaborative meetings are encouraged to occur at least once each calendar year.

Finally, each electric utility is also required to comply with the Commission's Chapter 22 Electric Utility Resource Planning rules regarding long-term planning. The rules require planning

for both supply-side resources and demand-side resources on an equivalent basis to meet future needs for annual electricity requirements and peak electricity capacity at the lowest cost to customers. Chapter 22 calls for active collaboration of each electric utility with the Commission Staff and other stakeholders during the planning process and during review of each utility's long term resource plan.

Who Evaluates and Verifies Electric Utility MEEIA Performance?

Each electric utility is required to hire an independent contractor to perform an evaluation on each Commission-approved demand-side program. The Commission is also required to hire an independent contractor to review and report on the work of each utility's contractor.

Who Pays for MEEIA?

The Commission promulgated two additional administrative rules (4 CSR 240-20.093 and 4 CSR 240-3.163) which allow for the establishment and operation of an electric utility's demand-side program investment recovery mechanism (Mechanism). The Mechanism may allow for periodic rate adjustments related to recovery of program costs as well as the recovery of lost revenues related to the programs and a utility performance incentive for investments in demand-side programs. The rules also set forth requirements related to MEEIA rate adjustment filings and annual reporting requirements.

Disclaimer: *This article has been written for the purposes of communicating timely concepts to the public and is not a position statement by the Missouri Public Service Commission or its Staff. Much of the technical terminology has been removed for ease of reading.*

John Rogers is a member of the PSC Staff, working in the Energy Resource Analysis Unit. Martha Wankum worked at the PSC when this article was written.

MEEIA Programs in Missouri:

What Has My Utility Done?

KCP&L-Greater Missouri Operations (GMO) (Case No. EO-2012-0009) -- On December 22, 2011, GMO filed a MEEIA case with the Public Service Commission seeking approval of programs (including both energy efficiency and demand response programs), and a cost recovery mechanism that would include cost recovery of program costs, a portion of the net shared benefits, lost revenues and a performance incentive mechanism. Under this proposal, GMO states it would incur approximately \$38.8 million in program costs over the next three years.

GMO anticipates that programs will result in \$105.1 million in total customer benefits (net of program costs) and have a cumulative annual energy savings of approximately 155,000 MWh and cumulative annual capacity savings of approximately 73 MW during the third program year. Various parties in this case have reached an agreement; that agreement has been filed with the Commission for its consideration.



Ameren Missouri (Case No. EO-2012-0142) -- On January 20, 2012, Ameren Missouri (Ameren) filed a MEEIA case with the Public Service Commission seeking approval of a broad portfolio of energy efficiency programs, a technical resource manual, and a cost recovery mechanism.

The proposed mechanism included cost recovery for program costs, lost revenues and performance incentives. The Commission approved an agreement on August 1, 2012, which included approximately \$147 million in energy efficiency program costs over the next three years.

The new energy efficiency programs are expected to be implemented on January 2, 2013. The programs are anticipated to result in \$336.6 million in total customer benefits (net of program costs) and have a cumulative annual energy savings of approximately 793,000 MWh during the third program year.

Power Generators Are Aging:

How old are U.S. power plants?

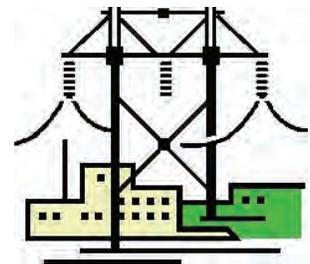
The nation's current fleet of electric power generators has a wide range of ages.

Most coal-fired plants were built before 1980. There was a wave of nuclear plant construction from the late 1960s to about 1990.

The most recent waves of generating capacity additions include natural gas-fired units in the 2000s and renewable units, primarily wind, coming online in the late 2000s.

The nation's oldest power plants tend to be hydropower generators. For example, the first U.S. hydroelectric power plant opened on the Fox River near Appleton, Wisconsin, on September 30, 1882.

(Source: U.S. Energy Information Administration)



Preparing For

COLD WEATHER

Things You Should Know

By Tracy Leonberger

Soon the cool gentle breezes of fall Missouri days will be replaced by the harsh winds of a Midwest winter. When that happens, furnaces will be turned on and customers will have heating bills to pay. For some customers, those bills will put a strain on an already tight household budget.

Since 1977, the Missouri Public Service Commission has had in place the Cold Weather Rule which provides protection for Missourians during what can be a cold and difficult time of the year. The Cold Weather Rule is in effect from November 1 through March 31. The rule applies to all investor-owned utility companies that provide heat-related service in Missouri. Municipalities, electric cooperatives and propane companies are not under the rate jurisdiction of the Public Service Commission and, as a result, they do not have to comply with this rule.

You may know a friend, neighbor or relative who was struggling to pay a heating bill and it was the Commission's Cold Weather Rule that helped to keep their homes warm during the winter. While the Commission can't provide energy assistance dollars to help pay a heating bill, it does require that a number of significant steps be taken by a utility company before service can be disconnected due to non-payment. The rule, which helps protect the health and safety of

Missouri residential customers, also contains a temperature moratorium.

If you are faced with a heating bill that you cannot pay in full, it is very important that you contact the utility company and express an inability to pay that bill. Failing to contact the company could put your utility service in jeopardy.

Here are some important things to know about the Cold Weather Rule:

❑ ***The rule contains a temperature moratorium.*** Utility companies are prohibited from disconnecting your heat-related service when the temperature is predicted to fall below 32 degrees. That is based on a National Weather Service local forecast issued between 6 and 9 in the morning covering the next 24 hour period.

If you have already had service disconnected for nonpayment, the temperature provision does not require the utility company to reconnect your service based on the fact that the temperature is predicted to fall below 32 degrees.

❑ ***Notification requirements before service can be disconnected for non-payment.*** Under the Cold Weather Rule, a utility company is required to mail a notice to you 10 days before the date the company intends to shut off service. The company is also required to attempt to

contact you within 96 hours before the shut-off. This may be a second written notice, a door hanger, or two attempts to make contact by phone. They must also attempt to contact you right before the shut-off. If service is disconnected, the utility company is required to leave a notice at your home.

The rule also requires that you be notified of possible financial help in paying your bill and it allows for the reconnection of service for less than the full amount owed.

❑ **Payment options.** If you enter into a Cold Weather Rule payment arrangement with your utility company, the rule allows you to budget your payments over 12 months, including pre-existing arrearage amounts. The rule also states that the initial payment may not exceed 12 percent of the total amount that you owe, if you have not broken a prior Cold Weather Rule payment agreement. You will not be required to pay a deposit as long as you keep your payment agreement.

❑ **Registered elderly or disabled customers.** Elderly or disabled customers who are registered with the utility company and who make minimum payments are safe from winter disconnections. Under the rule, a minimum payment is defined as either 50 percent of the actual billed usage for the month (for example \$50 if your actual bill for the month is \$100) or the level or budget bill amount that you agreed to in your Cold Weather Rule agreement. It is important to note that the utility may recover unpaid amounts from the winter months by adjusting your Cold Weather Rule payment installments after March 31.

❑ **You can register as an elderly or disabled customer if:**

- You are age 65 or older;
- A member of your household is disabled to the extent that he/she has filed a medical form

If you are faced with a heating bill that you cannot pay in full, it is very important that you contact the utility company and express an inability to pay that bill. Failing to contact the company could put your utility service in jeopardy.

completed by their physician, attesting that the household must have natural gas or electric utility service to maintain life or health; or

- The customer has obtained a formal award letter of disability benefits issued from the federal government.

In order to keep your status as a registered elderly or disabled customer you must renew your registration each year and that should take place by October 1.

For more information on the Public Service Commission's Cold Weather Rule, please go to our website (www.psc.mo.gov). Click on Consumer Services and then click on fact sheets. There you will find two information sheets regarding the Cold Weather Rule.

You may also contact the Public Service Commission at **1-800-392-4211** with any questions you might have or to ask for a copy of the Commission's Cold Weather Rule Information Guide.

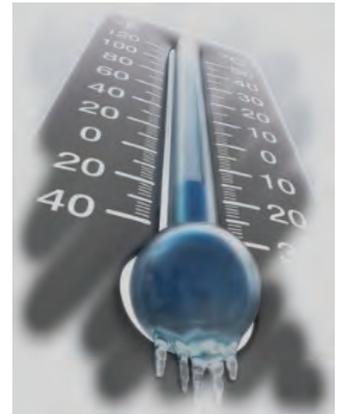
You can also get information regarding the Cold Weather Rule from your local utility company or community action agency.

Tracy Leonberger is a member of the PSC staff. She works in the Consumer Services Unit.

Be Prepared When It Gets Cold

HEATING & VENTILATION

- When you are home and awake, set your thermostat as low as is comfortable. *(Seniors and people with special medical needs should check with their doctors before changing their normal home temperatures or considering turning off heating units.)*
- Keep drapes and shades open during the day to allow sunlight to enter your home.
- Have the furnace checked and tuned-up, if needed. Replace filters regularly.
- Make sure vents are not blocked by furniture or drapes. Clean warm air registers, baseboard heaters and radiators as needed.
- Keep storm windows and doors in place to help prevent heat loss.
- Close off rooms that are not in use to save on heating bills.



FIND & SEAL AIR LEAKS

- Place weather stripping around doors, use plastic film covering and caulk windows to keep heat from escaping from your home.
- Have the chimney checked for blockage and close fireplace dampers when the fireplace is not being used.
- Check air ducts. Air ducts that are not working properly can create serious, life-threatening carbon monoxide problems in the home.

CALL YOUR UTILITY COMPANY

- You may want to talk to your local utility company about a “budget” or “level” billing plan. Many Missouri gas and electric companies have other programs to assist customers in paying their energy bills. In most cases, companies will try to work with you to avoid disconnections.

If You Smell Natural Gas



If you smell natural gas, don't stay inside your home. Leave your home or business immediately. Contact your natural gas provider.

What to do if you smell a strong, persistent odor:

- Don't smoke, light any matches or use lighters or any other open flame.
- Don't operate any electrical light or appliance switches.
- Don't use your phone because it may cause a spark.
- Leave the building and call your utility from somewhere else away from the gas odor. As you leave, open doors and windows if you can do so quickly and easily. Because natural gas is lighter than air, it rises and will dissipate rapidly where it can escape into the open air.
- Stay away from your building until you've been told that it is safe to return.

Carbon Monoxide Poisoning



Carbon Monoxide is an odorless and colorless gas. At moderate levels of carbon monoxide poisoning, you or your family can get severe headaches, become dizzy, mentally confused, nauseated, or faint. You can even die if these levels persist for a long time.

Low levels can cause shortness of breath, mild nausea, and mild headaches, and may have longer-term effects on your health.

If you experience symptoms:

-- **GET FRESH AIR IMMEDIATELY.** Open doors and windows, turn off combustion appliances and leave the house.

-- **GO TO AN EMERGENCY ROOM.** It can often be diagnosed by a blood test done soon after exposure.

It All Started **100 YEARS** *Ago*

In April the Missouri Public Service Commission will celebrate a milestone when the agency turns 100 years old. The 47th Missouri General Assembly passed legislation sponsored by Carroll County Senator William Busby which created the Missouri Public Service Commission.

Creation of the Commission was supported by Governor Elliott Major. The law creating the Public Service Commission took effect on April 15, 1913. The Commission replaced the Board of Railroad and Warehouse Commissioners which was established in 1875 to regulate railroads operating in Missouri.

“I am proud to be a part of an institution which has such a deep tradition as the Public Service Commission,” PSC Chairman Kevin Gunn said. “To be selected to serve the citizens of Missouri in this capacity is something that I and my fellow colleagues take very seriously. We know the decisions that we make on a daily basis have a profound impact upon the citizens of our state.”

Two Democrats and two Republicans were selected to serve on the first Public Service Commission in 1913. John Atkinson, a former Assistant Attorney General and Speaker of the Missouri House, was named the Commission’s first chairman. Atkinson was from Doniphan, Missouri.

Former Missouri Supreme Court Justice and state senator John Kennish served on the first Commission along with Frank Wightman, a railroad expert from Monett, Missouri. Wightman was also a former member of the Board of Railroad and Warehouse Commissioners. The fourth member of the first Public Service Commission was Howard Shaw, the Dean of the School of Engineering at the University of Missouri-Columbia. A fifth was appointed to the PSC in July of 1913; it was St. Louis attorney William Woerner.

Under the law which created the Public Service Commission, the PSC was to hold its sessions in the State Capitol. Due to the 1911 fire which destroyed a good portion of the Capitol Building, the Commission held its first session in the temporary State Capitol.

PSC Commissioners in 1913



John Atkinson



John Kennish



Howard Shaw



Frank Wightman



William Woerner

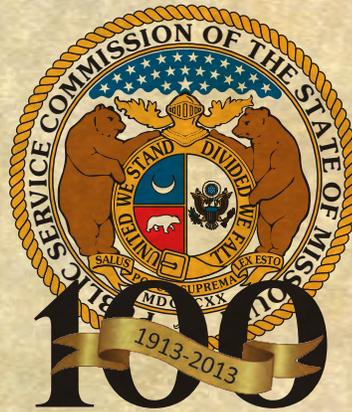
The Commission's first order of business was to decide whether to grant an application filed by the Missouri, Kansas and Texas Railway Company which sought approval of a certain consolidated mortgage and for the authorization of the issuance of bonds and authority to pledge said bonds as collateral security for the payment of a certain note. The case, which was filed on April 16, 1913, was decided by the Commission a day later.

"We see no valid reason why the bonds, as prayed for, by applicant, should not be issued, and an order will be entered accordingly by this Commission," the Commission said.

After its first session, the Commission moved to the old Supreme Court Building until the State Capitol was rebuilt.

At the close of 1913, there were 877 corporations, municipalities and individuals engaged in serving the public in a capacity that placed them under the jurisdiction of the Missouri Public Service Commission.

Today, the Missouri Public Service Commission regulates investor-owned electric, natural gas, telephone, water, sewer and steam companies operating in Missouri. In addition, the PSC regulates the operational safety of the state's rural electric cooperatives and municipally owned natural gas utilities.



The PSC also regulates manufacturers and dealers of manufactured homes and modular units.

A lot has changed since the Commission's creation, but the same fundamental principles that applied in 1913 apply today at the PSC.

"In an ever changing regulatory environment, we approach all challenges with a great deal of dedication," Chairman Gunn said. "Our goal each and every day is to balance the interests of all that appear before the PSC; working to assure that Missouri's rate paying customers receive safe and adequate service at just and reasonable rates."

PSC Commissioners in 2012



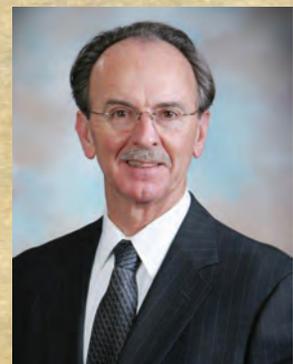
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Robert S. Kenney



Stephen M. Stoll

Employee Spotlight



Five Questions With:

Meghan McClowry

Associate Counsel

1) Main job duties

I am an attorney for PSC Staff and my job is to present Staff's recommendations to the Commission and to participate in all phases of litigation-- developing, presenting, and defending Staff's recommendations.

2) How I came to work at the PSC

I applied for a job as an intern at the PSC in the summer between my 2nd and 3rd years of law school. At the time, I had no idea what the PSC was, or that such an entity existed. However, I got the job and thoroughly enjoyed my internship. After interning for about a year, I applied for an open attorney position and was fortunate enough to beat out hundreds of applicants for the job.

3) What I did before coming to the PSC

Before coming to the PSC I was a law student at the University of Missouri, and prior to that a Psychology student at The Ohio State University in Columbus, Ohio. While in college, I worked as a pizza chef, a cocktail server, a computer lab attendant, and as a student assistant in the University's Sociology Department.

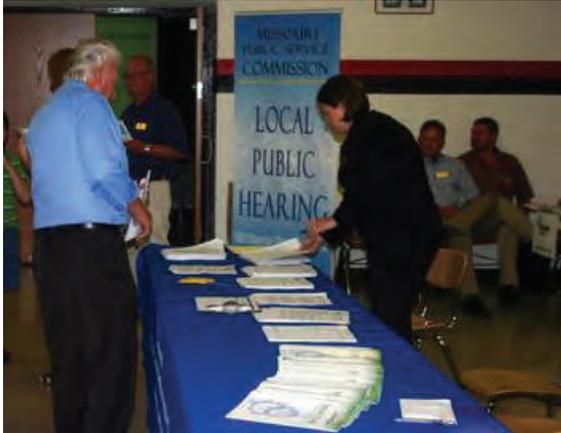
4) The most interesting thing about my job

The most interesting thing about my job is that the work we do everyday affects our neighbors and friends. To see things you have worked on affecting Missourians every day is a very powerful thing. Also, working at the PSC has taken me to parts of Missouri that I would have otherwise never seen. I love going to all places in which we hold public hearings, and visiting the small water and sewer companies, and meeting people all over the state.

5) One thing people do not know about me

I am getting married in January, and will soon be Meghan Woolery.

Connections: News, Notes & Events



PSC Holds Rate Case Public Hearings

The Missouri Public Service Commission held a series of local public hearings around the state to get customer comments.

Public hearings were held in July, August and September in electric rate cases filed by Ameren Missouri, Kansas City Power & Light Company and KCP&L - Greater Missouri Operations.

Pictured above, a public hearing was held at Dexter High School on Aug. 21. *(Photo courtesy of The Dexter Daily Statesman)*

Energy Law Seminar held Sept. 14

The Missouri Public Service Commission sponsored its second annual Energy Law Seminar on Sept. 14 on the campus of the St. Louis University School of Law.

The seminar featured a segment on the Fundamentals of Ratemaking, presented by Sarah Kliethermes, senior counsel for the Missouri Public Service Commission.

Commissioner Robert S. Kenney presented a segment entitled “Missouri’s Renewable Energy Standard: Past, Present and Future.”

Steve Gaw of the Wind Coalition, who previously served as speaker of the Missouri House of Representatives and as chairman of the Missouri Public Service Commission, presented a section entitled “Transmission Law and Development: Planning & Cost Allocation.”

Brent Roam, Associate at Bryan Cave LLP concluded the day with a seminar entitled “Trial Advocacy Before the Missouri Public Service Commission.”

Thirty people attended the seminar and qualified for 5.7 hours of free CLE credit.

Display featured in national publication

A photo of Missouri One Call’s new interactive damage prevention trailer with the state capitol as the backdrop was featured in a national publication.

The photo appeared in the Summer issue of *Damage Prevention Professional* magazine. The article featured awareness activities around the country held in conjunction with National Safe Digging Month.

The PSC and Missouri One Call held its awareness event in front of the state capitol on April 16.

Commissioner Kenney honored

Commissioner Robert Kenney was named by *Missouri Lawyers’ Weekly* as one of the Up and Coming Lawyers for 2012.

The publication honors lawyers 40 years old or younger or those who have practiced law for 10 or fewer years.

Missouri Bar Leadership Academy

Tanya Alm, a member of the PSC Staff, is one of 12 attorneys chosen for the 2012-2013 Missouri Bar Leadership Academy. The academy, now in its 13th year, seeks diversity in gender, race, area of practice, and locality of practice with the goal of including attorneys from underrepresented areas to broaden and strengthen The Missouri Bar.



New PSC website now on-line

The PSC rolled out its redesigned website during the latter part of June.

The site was formatted to similar “branding” as other agencies in Missouri government.



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