Water:

A Building Block of Life

By Jim Busch

In Missouri, we are relatively fortunate. At this time, we have ample supplies of water. We have two of the major river systems in North America -- the Mississippi and Missouri Rivers. There are also various smaller rivers and creeks that provide access to quality water supplies.

Besides rivers, Missouri is fortunate to sit on top of aquifers that have provided years of water for consumption and use on farms and other agricultural needs. Missouri also has various natural and man-made lakes that provide water supplies throughout the state. Missouri generally receives ample rain that continues to rejuvenate these resources.

With all of these resources, why do we have to pay for water?

Consumers often ask this question when the Missouri Public Service Commission (Commission) Staff attends local public hearings.

The simple answer is that it costs money to gather the water from its various sources, treat it to make it safe for human consumption, and then transport it to our homes for use at our convenience. This use is available to us 24-hours a day, seven days a week. Examples of these costs include the pump, if the source is underground; all of the transmission and distribution mains; chemicals, such as chlorine; and electricity to run the plants.

The Commission regulates investor-owned utilities. The Commission has a staff of technical experts that are assigned to various functions. There are auditors, attorneys, engineers and other technical experts. There are also Units within the Commission that have various experts with different specialties that focus on a particular industry or groups of industries. At the Commission, there is a group that specializes in the water and sewer industries. This group has expertise in engineering, auditing, economics, and plant operations. Unlike most of the other Units at the Commission, most of the Water and Sewer Units' time and efforts is spent on very small utilities with owners and operators who may not be familiar with Commission processes.

So what does the Commission's Water and Sewer Unit do?

First and foremost, the Water and Sewer Unit works to ensure utilities under Commission jurisdiction have the ability to provide safe and adequate service. The Unit also works closely with customers responding to complaints and inquiries.

Water and Sewer Unit Staff spends many hours in the field performing inspections of facilities and systems. Staff has to have an understanding of the various types of wastewater treatment mechanisms (i.e. lagoons, mechanical facilities, recirculating sand filters), various sources of supply for water, as well as how the collection and distribution systems collect the sewage and deliver it to the treatment facility or the distribution system that takes the water from the source and distributes it to the customers' homes.

Commission Staff has to have a thorough understanding of Commission rules and regulations. Due to the amount of time spent out in the field, Staff becomes very familiar with the various utilities and customers. The Unit conducts inspections of the various water and sewer systems to ensure that safe and adequate service is being provided to customers. If an inspector notices deficiencies or sub-par practices, a recommendation is sent to the company outlining the areas that need to be addressed and establishing the time the company has to correct the deficiency.

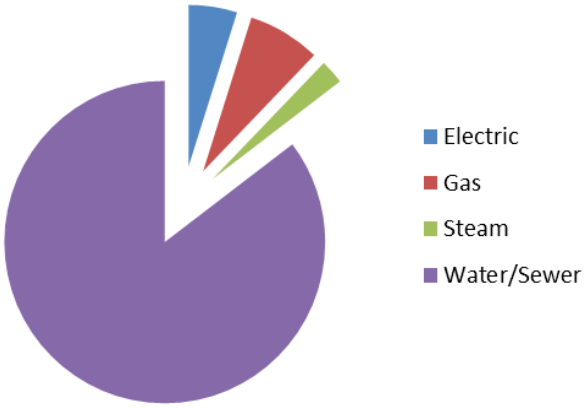
Another major component of the Unit is coordinating rate requests and working with Staff members from the Commission's other Units to perform on-site audits and reviews of the companies' office and field operations and billing practices.

The Water and Sewer Unit also works on applications from utilities who would like to be authorized by the Commission to provide water and/or sewer service. This is an important process because upon Commission approval, a new entity will be granted a certificate and will have to abide by the rules of the Commission, including billing practices, collections, and potential shut-offs. A utility company under Commission jurisdiction cannot set its own rates. Rates are set based upon a thorough Commission review of the costs to serve customers.

In Missouri, the Commission regulates investor-owned water and sewer utilities. It does not regulate municipal systems, such as Kansas City or Cape Girardeau. It also does not regulate water districts such as Cole County Public Water District #5 or Saline County Public Water District #2.

The Commission regulates approximately 70 water and sewer utilities. Missouri-American Water Company (MAWC) is the largest water and sewer company regulated by the Commission.

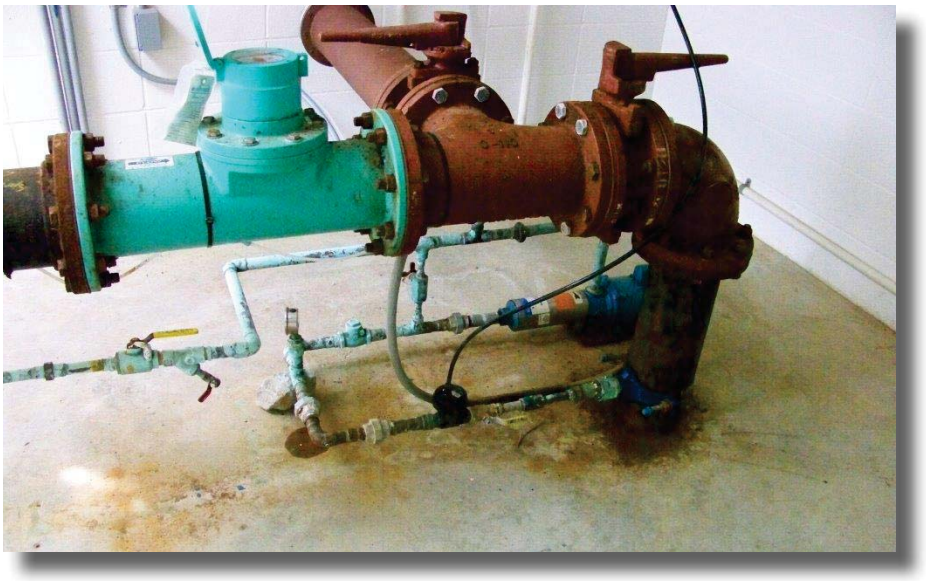
Missouri's Regulated Utilities



Water/Sewer Companies

MAWC provides water service to approximately 450,000 customers in various service territories from the St. Louis Metro area, to St. Joseph, down to Joplin, and in and around the Branson area. MAWC also provides service to almost 10,000 sewer customers. The remaining companies that are under Commission jurisdiction have fewer than 8,000 customers, with the vast majority having less than 500 customers.

Commission regulated water and sewer companies generally fall into one of three categories: ones that provide water service only, ones that provide only sewer service and ones that provide both water and sewer service. Most of the companies under Commission regulation are south of the Missouri River, generally in and around the Lake of the Ozarks, Springfield, and Branson areas. North of the river, water is provided generally by municipalities and water/sewer districts.



Aging infrastructure is one of the many challenges facing water and sewer utilities. It is a problem not unique to Missouri. Aging infrastructure can result in pipeline breaks which could result in customers being without service and could also result in costly system repairs.

Besides the Commission, water and sewer providers are also regulated by the Missouri Department of Natural Resources (DNR). DNR regulates water and wastewater systems for safety, not only for consumers, but for the environment as well, specifically the waters and streams of Missouri. Commission Staff works closely with DNR staff to ensure that the entities regulated by the Commission provide safe and adequate service at rates that are just and reasonable.

Pipes and gauges are part of a water system control room. Operators monitor various gauges to ensure proper pressure is maintained and the appropriate mix of chemicals is added to the system to help maintain safe and adequate service.

Challenges

As with other industries that are regulated by the Commission, there are many challenges facing the water and sewer industries. However, due to the smaller size of many of the water and sewer utilities, these challenges are especially problematic.

In the water industry, one of the newest challenges has been described as the water-energy nexus. Water companies use tremendous amounts of energy to pump water from their various sources of supplies and to distribute the water to customers through their infrastructure (pipes). Similarly, certain types of electric generation require large volumes of water in order to produce electricity. Water companies are looking for more energy efficient electric systems to operate their plants.

Aging infrastructure is another challenge facing water and sewer utilities, not only in Missouri but across the country. Aging infrastructure can result in pipeline breaks which could result in customers being without service and could also result in costly system repairs. Replacing aging infrastructure before a pipe fails is also costly, but necessary. Unfortunately, many of the small systems in Missouri do not have the ability to address these costly repairs in a timely manner.

One tool Missouri has to help offset investment in aging infrastructure is the

PSC Staff member Aaron Archer performs an on-site inspection.

Infrastructure System Replacement Surcharge (ISRS). The ISRS is a mechanism designed to allow a water utility to pass along to its customers, the costs of replacing and repairing old mains in the company's system outside the normal rate case process. In other words, with an ISRS, the company can replace aging infrastructure and get recovery of those costs in a more timely manner. This mechanism is in place for St. Louis area customers of the Missouri-American Water Company.

In the sewer industry, new, more stringent Environmental Protection Agency (EPA) requirements are requiring sewer companies to abandon older wastewater treatment facilities in favor of newer technologies.

Many Missouri sewer utilities, whether regulated by the Commission or not, lack the money or the number of customers to be able to afford upgraded facilities. This poses a huge financial burden, first on the utility and, ultimately, on its customers.

Smaller sewer systems may find it very difficult to meet more stringent EPA standards.

Commission regulated water and sewer companies generally fall into one of three categories: ones that provide water service only, ones that provide only sewer service and ones that provide both water and sewer service.

Unlike publicly-owned systems (such as municipalities and districts), privately-owned systems do not have access to federal or state government grants or low-interest loans.

Small, privately-owned systems often lack the funding or the collateral needed to obtain loans. This challenge started to have a real impact on small systems over the past year or two and will only get worse as current DNR operating permits continue to expire and new operating permits are sought and granted for those systems. While these issues are not limited to systems under the Commission's jurisdiction, the Commission and DNR acknowledge the burdens that new requirements will place on Missouri systems and both agencies are working to help make sure the systems regulated by the Commission can stay in compliance with environmental regulations.

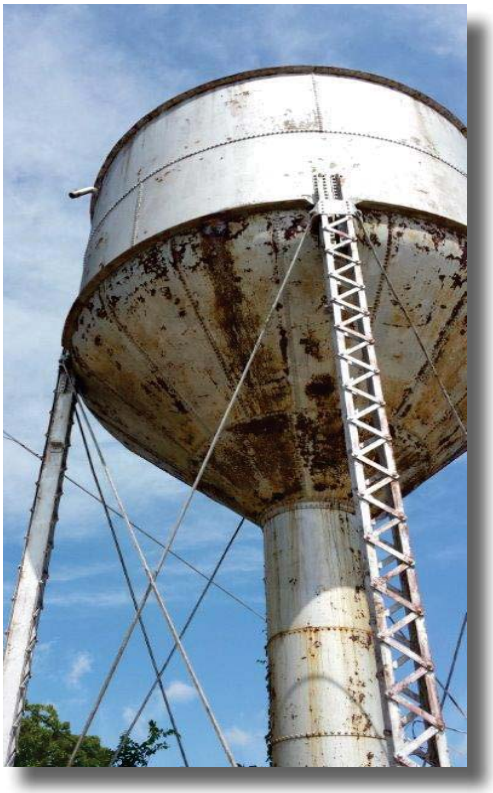
One potential solution to this challenge is an existing, privately-owned utility could purchase the assets of the public system. Another path would be to sell the assets to an entity that is not currently regulated by the Commission, but would eventually be regulated by the Commission. Neither of these paths necessarily reduces the burden to consumers of mandated upgrades, but it does give the system the financial means to make the upgrades and be in compliance with DNR regulations. This trend will require continued close monitoring.

Another challenge that has been impacting small, Commission-regulated water and sewer companies for many years is how to continually provide safe and adequate service at just and reasonable rates. All but the largest water/sewer utilities regulated by the Commission have less than 8,000 customers, with the vast majority having less than 500 customers. With fewer customers, it could become very costly for each individual ratepayer to cover small system infrastructure and system upgrades.

Small Company Rate Request Rule

The Commission's mission is to ensure companies provide safe and adequate service to customers at just and reasonable rates. Those rates must also be set at a level which gives the utility an opportunity, not a guarantee, to earn a fair return on its investment.

One of the major components the Commission uses to help meet its mission is the rate case process. The vast majority of small water and sewer utilities do not have a complete understanding of Commission processes, nor do they have the financial ability to hire legal and technical experts to help. Due to the small number of customers most of these utilities have, any costs incurred are spread over that small number of customers, making them a significant driver for increased rates. Thus, ratepayers of small utilities, under a normal rate case process, would spend a high percentage of their bill simply for rate case expense, which does not help the utility provide safe or adequate service.



The Commission created a Small Company Rate Request Rule. This rule allows small utilities, those that have fewer than 8,000 customers, to initiate a rate request without the need to hire legal counsel or outside technical experts. This rule, in essence, allows for costs to be reviewed without the added burden of incurring high rate case expense.

Receivers

Some utilities are owned and operated by people who lack the necessary financial ability to make all needed improvements, repairs, and upgrades to maintain safe and adequate service.

For instance, an owner subject to various environmental regulations may not have created a reserve fund to allow for further investment. Unlike electric or gas corporations, many small water and sewer systems were created by developers or other entities interested in selling lots and homes. It is relatively easy to create a water and wastewater system to serve a small number of customers, but not all developers are in the business to run a utility.

The transfer of small company stock requires no Commission approval. Thus, a developer who wants out of the business can sell the stock to anyone, even if that new person does not have the managerial, financial, or technical expertise to be a utility operator.

Sometimes owner/operators reach a stage where they are no longer capable of running the business and a child or spouse takes over the operations. State law requires these small systems to be regulated by the Commission if they are providing service for gain. Thus, someone who does not intend to be a regulated utility ends up a utility anyway.

Eventually, these types of systems become distressed and the owners realize they are not capable of providing service. When the situation gets to the point where an owner is unwilling or unable to provide safe and adequate service, then a receiver may be appointed by the courts to manage the operation of the utility and to prepare the system for eventual sale to another entity.

Commission Staff continually works with receivers and potential purchasers of a system to maintain safe and adequate service, to assist receivers in the operation of the system and to help find financing or purchasers.

Water and sewer companies face unique challenges. How federal and state regulators, policymakers, utility companies and consumers respond to those challenges will help pave the way to ensuring future Missourians continue to have a safe and adequate water supply.

Jim Busch *is the Manager of the Water and Sewer Unit for the PSC Staff.*

State Oversight:

Working To Ensure Water Quality

By Curtis Gateley

Like most states, Missouri's Department of Natural Resources (DNR) implements federal health criteria for drinking water and water quality to protect our streams, lakes, and groundwater.

Drinking water criteria are based on prevention of disease, but also preventing taste and odor problems, staining of laundry, etc. Water quality criteria for streams and lakes are enforced on wastewater (sewage) discharges, and are based on extensive toxicity testing and studies. These water quality criteria and other treatment standards ensure protection of aquatic life, prevent contamination of drinking water sources, protect livestock, and all the other uses for surface and ground waters. The standards enforced by the states are established based on the latest scientific information available, and therefore can change as scientific knowledge advances.

Periodically states are required to review their standards and ensure they meet the minimums required by the federal government. States incorporate the federal requirements into their laws, or can adopt more protective requirements if they deem it necessary. For example, the federal Clean Water Act does not regulate groundwater quality but the State Clean Water Law does. This is appropriate since a large number of Missouri citizens obtain their drinking water from groundwater, which can be easily contaminated because of Missouri's karst geology.

A sewage treatment lagoon.

For a utility, a change in a requirement from DNR can mean upgrades in treatment systems or other improvements. Thus DNR requirements often drive investments by utilities, which those utilities will seek to recover in rates from customers. These improvements must be considered with other needs, such as equipment that has reached the end of its useful life, equipment that has deteriorated or been damaged, or in response to population growth requiring larger facilities.

As is typical in most infrastructure projects, what was considered adequate to build decades ago is not acceptable today. For example, a lagoon for treating sewage, as was common technology in the early 1980s, will not meet modern requirements. Another example is installation of a treatment device to remove naturally occurring radionuclides from drinking water wells in some portions of Missouri, because in recent years these naturally occurring minerals have been determined to increase risk for cancer. New DNR requirements can mean a new drinking water or sewage treatment system may be considerably more sophisticated, and therefore expensive, than what it is replacing, although with some innovative technologies or wastewater irrigation systems, the opposite may also be true.

DNR staff conducts inspections of drinking water and sewage treatment facilities for compliance with their regulations. DNR employs scientists and engineers trained to evaluate a facility's performance, and they share their findings with Commission Staff. Commission Staff likewise share the results of its inspections with DNR. In this way, the two agencies work closely to ensure that the utilities regulated by the Commission maintain safe and adequate service.

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What Happens When A Small Company Files A Rate Request?

Here's how the process works:

- The utility files a **letter** with the Commission **requesting an increase** in its rates. Within this letter, the utility spells out the reasons for seeking the additional revenue.

- The Commission creates a **case**.

- The company sends a **customer notice** explaining the company has requested an increase, the reasons for the request, and to give the customers contact information on how to make public comments or to express their concerns to the Commission, Commission Staff, or the Office of the Public Counsel (Public Counsel), a separate state agency that represents the general public before the Commission.

- **Staff conducts a full and complete audit and investigation** of the Company's books and records. This includes a thorough review by the Commission's Auditing Unit, a review by the Commission's Engineering & Management Services Unit, and an operations inspection by the Commission's Water and Sewer Unit. This review and investigation takes just under three months. Staff is required to submit its preliminary results to the company, Public Counsel, and other parties in 90 days.

- In 150 days from the rate case filing, or just less than five months after the initial letter requesting an increase in rates, **the Commission Staff and the Company are required to come to an agreement**. Due to the fact that additional information is sometimes needed, or there are other extenuating circumstances, the rule allows for an extension of up to 60 days ensuring that the Company and Staff can reach an agreement.

- **Public Counsel can either sign the agreement, not sign and not oppose the agreement, or request a local public hearing.** If a local public hearing is requested, the Commission will seek input from the public and the time when rates can go into effect is extended. If no local public hearing is requested, rates will go into effect in about 45 days. Thus, under the small company request rule, rates can go into effect in a little over six months without the need for the company to hire an attorney or outside experts. This is a significant savings for the Company and ultimately the ratepayer.

The Commission Rule allows small utilities, those that have fewer than 8,000 customers, to initiate a rate request without the need to hire legal counsel or outside technical experts.

If no agreement can be reached, then a request for arbitration or an evidentiary hearing is made by Public Counsel and rate case expense becomes an issue. The utility is required to hire an attorney and may also need to hire an outside technical expert. Ultimately, final resolution of the small company rate request should take no more than 11 months.

In contrast, a large water or sewer company hires an attorney and has several technical experts. The Commission must decide whether to grant a request for a change in rates for a large water or sewer company within 11 months of the request. This process regularly includes local public hearings and an evidentiary hearing.

The five-member Commission ultimately decides the rate case and the decision is made through a written order. Commission decisions are subject to judicial review.

Clip & Save

Ways To Conserve Water

How much water you use at home depends on the size of your household, use habits, and the type of plumbing fixtures in your home. Minor water leaks account for more than 1 trillion gallons of wasted water each year, according to the U.S. Environmental Protection Agency. Here are some easy tips to save water:

Turn Off The Tap

-- Turn the water off while brushing your teeth or shaving.
-- Take short showers.
-- Keep drinking water in the refrigerator instead of letting the faucet run until the water is cool.

In The Kitchen & Laundry

-- Scrape rather than rinse dishes before loading into a dish washer; wash only full loads.
-- Wash only full loads of laundry or use the appropriate water level or load size selection on the washing machine.

Outdoors

-- Sweep driveways, steps, and sidewalks rather than hosing them off.
-- Control the flow of a hose with an automatic shut off nozzle.

Maintenance Tips

-- Fix leaks. A dripping faucet can waste up to 3,000 gallons of water a year. A toilet that runs continuously can use almost 200 gallons per day.
-- Consider water saving units, such as low-flow toilets, when replacing appliances.
-- Review your bill to help monitor water use and detect leaks.