WATER METERS

By Steve Freeman

Hello readers. Water meters for some is a controversial topic, a lot to discuss in a short article, but let me try to cover some basics. Is your water system employing meters? If not, you need to. Water meters are the true cash box to any water system, your department is a business and its imperative that it's managed like one. Metering the water consumption in homes and business's is the only fair way to bill customers as they are billed on actual usage, not an average or assumption. How many customers that are receiving either electricity or natural gas are not metered? I'm guessing none. Water meters are a huge necessity. They help to encourage conservation. If the customer is not metered why worry of how much is used. Metering gives the water system a true picture of where the water is going. Is the amount of water you are producing matching the amount you are metering? This is how we figure percent of loss in the system. If the numbers don't match closely, you probably are losing the water through leaks. If you're not metered there is no correct way to figure this amount.

Meter reading techniques. Whether you're looking to install meters for the first time or upgrade an existing system, there are several methods of collecting water meter data. Direct read, touch pad, AMR (automatic meter reading) and AMI (advanced metering infrastructure) to name a few. When I first started working in my village (many years ago) we used a direct read method, let me explain. We had to physically enter the home armed with a flashlight, meter book, pencil, and calculator. Followed by crawling through the basement or crawl space, looking at the meter, writing the number in the book, doing the math, crawling back out and returning to the office with the data. Then the office staff would manually enter the data into the billing system. This method took DAYS to achieve and lent itself to many human errors. I don't recommend it. Touch pad system, this method involves walking to each structure and physically touching a handheld wand to a pad on the exterior of the building that is wired to the meter in the basement. Although much better than the direct read, still very time consuming and hard to obtain in the winter months. AMR – automatic meter reading, this method is mainly a radio read system or drive by as it's called. The water meter has an antenna and batteries built into the head. A laptop computer with an antenna is placed in your vehicle, the meter sends a signal to a laptop as you drive by, and the data is collected. This method is quite effective, when my system switched to this method, I could obtain the data from 850 meters in about an hour, not bad! The collected data was saved to a flash drive that plugged into the billing system computer at the office. No manual data entry. AMI – advanced metering infrastructure. Unlike AMR, AMI doesn't require personnel to collect the data. Instead, the system automatically transmits the data directly to the utility office at predetermined intervals. Meter readings are sent to utilities via a fixed network. This is the most up-to-date method in the industry. I have seen some AMI systems in rural communities, for those that have them, they work quite nicely.

AMR and AMI systems are the most popular in today's world. Both methods provide real-time lower cost methods of collecting data without entering the user's property. With either method, the meter stores data that can be retrieved for usually a year or so. This is helpful in determining the customers use patterns, reducing customer complaints and increasing customer and employee satisfaction. Both include retrievable data and alarms, high use, low use, no use, reverse flow, low pressure, and temperature, to name a few. Either system reduces billing errors and disputes, increases cash flow, provides accurate real time readings, promotes conservation, and increases the water system's image.

Once you have installed your up-to-date meter reading system be sure to add the information to your Asset Management Plan. Your plan will assist you in determining when to replace your meters. Most manufacturers recommend replacement at around 20-years. I will not recommend one system over another, that is up to each individual system to decide. Talk to your meter distributors, there's a lot out there. Take a close look at all available systems and technologies, get pricing, and decide which data collection system will work best for your system. For the systems out there that collect water, electric and gas meter readings, look for a system that will work with all. If you would like more information on this topic, please feel free to reach out to me or any of our qualified NYRWA Staff. As always, together we will continue to provide Quality on Tap! 💧💧💧

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