

Meter Accuracy

By Russ Topp, CircuitRider

How does your water system pay for operation and maintenance costs, repairs and capital improvements? The answer should be from the revenue generated from water sales. What determines how much water is sold to your customers? The answer to that question should be the water meter. Perhaps the most important and the most neglected part of your system is the water meter.

With budgets getting tighter and tighter, most water systems are becoming aware that water loss adds up to money loss and are conducting water audits and leak detection to see exactly where their water is going. Some systems are surprised to find they are losing a lot of water, but there are no water leaks to be found. One place the water could be going is through the meter without being registered. How old are your meters and when was the last time, if ever, have they been tested? American Water Works Association recommends that 5/8" brass body residential meters be tested at least every 10 years, 3/4" at least every 8 years, 1" at least every 6 years, and 2" at least every 4 years. If you have high iron and manganese they suggest testing twice as often.

If your meters haven't been tested recently, you may want to consider starting a meter maintenance program. A good way to start a meter maintenance program may be to purchase a case of new meters, replace some of the old meters you suspect may not be accurate, and have the old meters tested.

Even if the meters are accurate, it doesn't mean everything is fine. The outside remote readout may be the next problem. The newer direct read meters have the technology to read directly to the head of the meter. This technology takes one major water loss factor out of the equation. If you are still using the old pulse type meters that send a pulse to an outside reader, I can almost guarantee you that not all the water is being recorded. This old technology was a huge labor saver at the time but the outside readers do not always register a pulse from the meter. If you have these types of outside readers, you should always set the remote reader to the same reading as the actual meter inside the house. If this was done when the meters were installed originally, it is very easy to see how much water went through the meter without being registered by the outside remote reader. You just subtract the outside reader from the actual meter. If the readings are the same, then the outside reader has worked flawlessly. Most outside pulse remote readers were installed without corresponding with the inside meter. If this is the case you, will need to set the outside readout to the same reading as the inside meter and give it a few months. Then check to see if it is working properly. I know you can send a pulse from a battery to see if the readout will accept a pulse but it is difficult to know if the meter is sending a good enough pulse to get the remote to work.

Nebraska Rural Water Association has approximately 1,345 residential meters in our database. Below is the water use homes should average per month over a year:

Average water use for 1 person in the household is 6,745 gallons.

Average water use for 2 people in the household is 10,098 gallons.

Average water use for 3 people in the household is 12,376 gallons.

Average water use for 4 people in the household is 11,836 gallons.

Average water use for 5 people in the household is 13,812 gallons.

If you have customers using noticeably less than these amounts, this would be a good time to start your meter maintenance program.

As always if you would like assistance from Nebraska Rural Water Association, please give us a call.