

SOURCE TO TAP

METERING FACTS OF INTEREST

KWD requires different sizes of meters with different flow capacities depending on the water use requirements of the structure served. Most residential meters are 5/8 inch – the minimum size commonly in use.

In early 1900's, the beginning of the KWD, most structures did not have water meters. Rates were fixed yearly and based on the number of faucets, bathtubs, set bowls and water closets in the structure. There were additional charges for each horse and cow stabled on the premises.

100 cubic feet = 748 gallons

Average cost for KWD water is around ½ cent per gallon

KWD Upgrading its Metering System

The Kennebec Water District is in the process of upgrading its metering and meter reading programs. KWD is utilizing newly available metering and meter reading technology.

In response to upcoming regulations regarding piping and other materials used in drinking water systems, KWD is moving from brass body meters to meters made of composite material (plastic). Because KWD has approximately 8700 meters in its system, replacing all the meters will take several years.

A second part of the upgrade process involves installation of "endpoint" boxes on the outside of each metered structure directly over the "touchpad" currently used to obtain water meter readings. The endpoints will allow meter readings to be transmitted to a central computer in the



KWD business office. The meter read system upgrade will be a 3 year process scheduled to be complete in 2013. KWD customer service staff is working with our summer employees to install the first third of the system before fall.

Two other customer service related changes will also be taking place. The KWD billing system will be upgraded to be able to process water consumption data collected by our new metering hardware. Because data will be

collected daily rather than once every three months, individual water use trends can be analyzed and used to assist customers in recognizing when water loss through an internal plumbing leak might be occurring.

The Maine Public Utilities Commission is also updating its requirements for customer service and billing practices for water utilities. Those changes will begin in January 2012.

(One of the new meters is shown above).

The Current KWD Metering System

Water meter systems differ somewhat from those of other utilities. The meters must be inside on the incoming water pipe in order to measure all flow into a structure and to also

protect the meter against freezing. In the current KWD system, all inside water meters are wired to "touchpads" which are typically mounted on the outside of the building. The KWD meter reader is

able to obtain water use readings directly from the touchpads using a handheld computer. This system is convenient for both customers and KWD as no access to the building is required.

Meter Reading Upgrade

KWD has traditionally read all its meters manually. In recent years, many other water utilities advanced to “radio read” systems that allowed water readings to be transmitted to a laptop computer in a passing vehicle and later sent to the billing computer. The radio read systems cut down on the amount of time spent reading by utility personnel, but still

required the investment of a vehicle and its associated operating costs. However, because of the efficiency of the KWD reading system due in large part to the proficiency of the KWD meter reader, KWD did not find it economically prudent to move to a radio read system.

A technology advance changed our approach. The introduction of a “fixed base” reading platform

provided enough economic advantages to make the system feasible.

Our program will allow us to read meters directly at our business office computer as the newly installed endpoints transmit the data. Bills will be generated by the same office staff. Much reading labor time will be saved and the need for a vehicle and associated costs will be eliminated.

For more details on the KWD metering system and other customer service programs, please visit the KWD website kennebecwater.org

Questions can also be directed to Customer Service Manager Mike O'Brien or General Manager Jeff LaCasse at 872-2763.

Replacement Meters

Water meter technology has advanced in recent years. The meters that KWD currently have in place are constructed primarily of metal and are mechanical in operation. They rely on mechanical registration of water use. The new technology employs a magnetic flowmeter that uses no moving parts.

The old mechanical meters tended to lose

accuracy over time. The new meters are projected to be 100% accurate for up to 20 years. Long term accuracy means that KWD will no longer have to remove, test, and rehab meters every 8-12 years to ensure the meters are operating as required.

The new meters are constructed of composite plastic, ensuring a lead free construction to meet upcoming plumbing code

regulations.

The meters will also give KWD the ability to detect abnormal flows quickly which will aid both KWD and its customers.

The meter replacement program will take several years. The first meters replaced will be those that have reached the end of their useful lives. Rather than rehab the old meters, we will replace them.

Smart Meters vs. the KWD Metering System

Because of extensive media coverage of the “Smart Meter” program of CMP, some of our KWD customers wondered if the new KWD meter system has similar issues.

Concerns with the Smart Grid primarily involve safety, privacy, and the impacts of radio waves.

While CMP Smart Meters are connected directly to each electric service line and capable of collecting extensive use data and controlling grid access, KWD meters transmit only meter readings and have no control capability. The KWD external transmitter units are wired to the meter, are battery

operated, and transmit for only 0.04 seconds 4 times a day. Each meter signals independently and not in a network mesh which links neighboring meters.

Many other water utilities in Maine and across the country have had “radio read” systems in place for years with minimal issues.

Reading Water Meters

Water bills have a fixed minimum quarterly charge based on the size of the meter, but the bill varies with the amount of water used. For customers who are interested in keeping track of their water use and controlling the amount of water used each billing period, reading their own meters is possible.

The actual water meter is located on the incoming water service pipe and

wired to the touchpad or endpoint. The meters themselves can be read visually, but touchpads and endpoints can only be read electronically with specialized equipment.

KWD still has several meter models in use and each model has a slightly different meter "face". Basically, reading a water meter is similar to reading a car's odometer with units increasing from right

to left on the dial. Most also have a spin indicator that is sensitive to low flows.

It is important to check the units on the meter face to determine the flow through the meter. Even though meters read in cubic feet (and some in fractions of a cubic foot of water), KWD bills only for each 100 cubic feet (748 gallons) used, at the rate of \$1.474 for each 100 cf.



Typical meter "face"

If you are interested in learning how to read your meter, the KWD Customer Service staff will assist you in the technique.

The KWD Customer Service staff will assist in determining the cause of a "high" water bill.

KWD will also supply (for free) dye tablets to assist in finding leakage in toilet tanks.

To get a better idea of how your KWD bill compares with that of other utilities, please remember that each KWD bill covers three months of service.

High Bills and Leaks on Internal Plumbing

Leaking fixtures within a house can result in a significant increase in a quarterly water bill. Often homeowners are unaware that a leak is in progress and being recorded.

The most common source of undetected leakage is toilets. Water can be spilling into the overflow in the toilet tank on the back of the toilet or escaping around the outlet seal in the tank without obvious

indications. Leakage will continue until the situation is corrected by adjustment or replacement of parts.

Water leaks on internal plumbing such toilets tend to "run" around the clock. A small leak 1/8 inch in diameter may waste 296,000 or more gallons in three months. That's 394 hundred cubic feet and, at the KWD rate of \$1.47 per hundred cubic feet, a significant impact.

Because KWD has to treat and deliver all its water, regardless of how it is used, it does not abate water lost in leakage. We do supply area sewer utilities with water use readings to be used as the basis for sewer bills however and, if it can be proved that all water billed did not go into the sewer system, there may be some abatement of the related sewer bill.

How KWD Bills

Most KWD customers are billed quarterly. Some of our larger business and industrial customers receive monthly bills.

KWD revenue needs are based on the anticipated expenses for the utility, and rates are set to

generate those revenues annually. KWD is regulated by the Public Utilities Commission of Maine and all rates must be approved by the PUC.

Each bill contains a fixed minimum charge based on meter size and an

additional charge (\$1.474 for each 100 cubic feet) based on the quantity of water used in the billing period.

Readings obtained by the KWD meter reader are downloaded in the office to generate customer bills.

Kennebec Water District

6 Cool Street
PO Box 356
Waterville, Maine 04903-0356

Phone: 207-872-2763

Fax: 207-861-8964

Email:

kennebecwater@prexar.com

First District in America

*Serving Waterville, Winslow,
Fairfield, Benton and
Vassalboro*

**The Kennebec Water District**

The Kennebec Water District is a quasi-municipal public water supply system that serves the municipalities of Waterville, Winslow, Fairfield, Benton, and Vassalboro. KWD also serves as the source of supply for the Town of Oakland. The public utility that operates the Oakland system is AquaMaine.

KWD was chartered 1899. Prior to the beginnings of KWD, water service in the area was provided through a combination of public and private wells and one private water "utility". Several major downtown fires throughout the state of Maine spurred the obvious solution to develop water systems that would provide both adequate fire protection and reliable water for drinking and sanitation. Because such systems would serve the public good, it made sense for municipalities to own and operate them.

The problem in developing public water systems, however, was the constitutional limitation on debt that municipalities could incur. Water systems consisting of pipes, hydrants, pumps, and storage tanks are very costly to develop and, without the ability to borrow large sums, there was no way that those towns could finagle the necessary financing. The water "district" concept provided the ability to span several communities, was predicated on providing only one public service (water supply), and was funded independently from individual municipalities to avoid the debt restrictions. Using this scheme, KWD became the first water district in the United States.

Early in its operations, KWD moved its source from the contaminated Messalonskee Stream to a pristine China Lake. Today China Lake water requires filtration, but it is still used as the source for 8700 KWD customers and the area's public fire protection.

More information

OPT-OUT Provision

As a result of the controversy involving the Smart Meter program of CMP, KWD will allow customers to postpone installation of endpoints.

Although we have received many technical assurances that our transmitter units are completely safe, we realize some of our customers may still have concerns and we want to provide them with a choice to not have an endpoint installed at this time. Customers may inform the KWD business

office or customer service installers of their desire to opt-out of the endpoint installation.

Near the end of the three year endpoint installation program, we will be revisiting customers who chose to put off the installation of the endpoint. At that time they will be provided another opportunity to get the unit installed.

There will be no added charge for opting out until the end of the program. A fee may then be added to each bill going forward to cover the costs of manual

meter reading.

This opt-out policy relates only to endpoint installs, not to our new meters (which are NOT smart meters).

We will attempt to make on site contact with property owners prior to installing endpoints and will leave information in all cases. Customers who have had an endpoint installed while not home will be allowed to opt-out with no penalty. They should notify KWD of their intent to opt-out and KWD will remove the endpoint.

We're on the Web!

kennebecwater.org