AMI Frequently Asked Questions

Town of Valdese Frequently Asked Questions - FAQ's

Why is the Town converting its meters to new reading technology?

The Town approved the upgrade of a its existing drive-by (AMR) system to a fixed and real-time reading network, referred to as Advanced Metering Infrastructure (AMI), in May of 2019 following years of consideration, analysis, and planning. In the initial phase, a portion of the Town's meters will be replaced, and the billing software will be integrated, so the entire process, from the meter to the bill, will be tested and verified prior to Town-wide installation. The Town will be installing meters and equipment manufactured by Mueller Systems, and manage the data through Mueller System's Mi.Net advanced and comprehensive meter data management system, thereby expanding the benefits of its existing metering equipment.

Why is the Town changing the way it reads the meters?

The enhancement of existing equipment will provide 720 reads during each billing cycle with the new technology rather than 1 read every 30 days with the existing system. This detailed usage will enable the Town to automate its meter reading process, provide improved customer service through data access, reduce leaks to promote resource conservation, and improve Utility operational efficiencies by capturing real-time meter reading data.

How does the new system work?

The Advanced Metering Infrastructure (AMI) system is made up of several advanced or more commonly referred to as "smart" components that communicate using wireless and radio frequency technology. Inside the meter box, a small radio is connected to the water meter that records and transmits a reading on hourly intervals to a collector. These data transmissions last only several milliseconds and are smaller data size than text. These network units will be mounted on top of the Town's water tanks and on the site of multiple Town-owned property locations. The collectors store all the reads and sends batch uploads twice daily to the software accessible at Town Hall.

What is the technology that reads my meter and sends it to the Town? Is it safe?

The meters use wireless radio frequencies, similar to wireless Internet and cable TV, to send and receive information to and from the Town's Utility and Billing staff. The meters and communication system are regulated to meet all federal communications, safety standards and codes. There is no personal identifying information captured or transmitted by the meter.

Is the Town's AMI network RF regulated?

The Town's AMI network is called Mi.Net and is regulated to meet all federal communications, safety standards and codes. The system operates at a low output power of one watt or less,

enough to enable communications but posing no threat to health as regulated by the FCC. There is no personal identifying information captured or transmitted by the meter.

It is important to understand that the radio transmitters are not always "on" and are only transmitting when they are in use. The Mi.Net system transmits only once a day for a fraction of a second as compared to the continuous use of common household devices, such as cellular phones, laptops, and Wi-Fi routers. Learn more about Mueller System's Mi.Net and RF Safety here.

Do I have to pay for my new meter?

No, the Town pays for the costs of the meters and their installation through existing utility fees and funding support through a combination of grant and loan proceeds provided by the Division of Water Infrastructure. The Town has prepared for the cost of this project as part of its annual capital improvement planning process. This project does not have any impacts to the existing water and sewer rates for the Town.

Have the new meters been tested for accuracy?

Yes, the all upgraded meters have been tested and guaranteed accurate by the manufacturer, Mueller Systems, in compliance with American Water Works Association (AWWA) accuracy standards. Additionally, the design of the installation process includes a testing phase, which allows a sub-set of the meters to be installed and the billing software to be integrated, so the entire process, from the meter to the bill, will be tested and verified for accuracy prior to system-wide installation.

Will my water bill increase?

The Town's existing meters have reached their end of useful life and, as with all mechanical meters, may become less accurate over time. The new meters are highly accurate and will record customer usage more precisely than the replaced meters. The benefits of improved and more accurate usage information to the Utility and customers will reduce wasted water through the enhanced system capability to send alerts and notifications such as stopped meter, customer leak detection, and utility distribution system leak detection.

Could I have a leak that is causing extra water usage?

If you have an unexplained spike in your water usage or show continuous water flow, it may be an indication of a leak. Customer Service will be able to identify a leak based on your consumption profile and leak alarms from the advanced meter that will immediately notify Customer Service and you if a leak is identified.

Is the AMI system secure?

The hourly read data that is transmitted from the meter register to the collector and then on to the hosted server is secured by 128 AES encryption. No customer identifying information is

transmitted. The data stored in the collector is secured by end-to-end 128 bit RC4 encryption and the server has multiple levels of protection, including TLS 1.2+, 2048 bit RSA SSL Certificate, IDS/IPS/WAF, and SOC 2 Type II. Utility staff access to the system is password protected and is also encrypted.

About the Installation Project

Who is doing the work for the project?

The project is being managed for the Town by MeterSYS, a Raleigh-based advanced metering consulting firm, specializing in advanced metering technologies. MeterSYS will be responsible for overall management of the project along with the manufacturer Mueller Systems and the installation sub-contractor Atlantic Utility Solutions, a Fortiline Waterworks Company. Field personnel working on the project will carry proper identification and have successfully completed a background check. Field personnel will not need to enter residential property, nor will they be asking for any form of payment from customers.

How long will I be without water during installation?

While replacement times will vary, replacing a meter should take no longer than 10 minutes for residential meters, during which the water will be shut-off for a portion of that time. The installation crews will make every effort to keep the interruption to your service to a minimum. Commercial and industrial customers will be contacted in advance to schedule installation to minimize the disruption to their business. After the new meter has been installed, a door tag will be placed on the front door notifying customers the work has been completed.

Who do I contact with questions about the field work to my meter?

You can contact Mueller System's toll-free customer contact line that is staffed 24/7. Please call them at 833-NCWater, Ext. 1 with questions or concerns regarding your meter replacement or to schedule the replacement of your meter.

About Radio Frequencies

What is Radio Frequency? How is it measured?

Electromagnetic fields, radio waves, microwaves and wireless signals are collectively referred to as Radio Frequency (RF) energy. RF energy is all around us. It's used in various electronics and appliances, including radio and television broadcasting, cellular telephones, satellite communications, microwave ovens, and radars to name a few. *Source: Bender, Klaus, PE."No Health Threat from Smart Meters." Utilities Telecom Council.2010. https://www.nema.org/Technical/Documents/SmartMeter-NoHealthThreat.pdf*

Is there a health hazard associated with radio frequency?

According to several reputable organizations, including the World Health Organization and Utilities Telecom Council, there is no demonstrated cause and effect relationship between low levels of RF exposure and adverse human health effects.

How is RF regulated? Are there any safety limits on human exposure to wireless and RF fields?

Since 1996, the Federal Communications Commission (FCC) has required all wireless communications devices sold in the United States meet minimum guidelines for safe human exposure to radio frequency energy. The limits established in the guidelines are designed to protect the public health with a very large margin of safety. The radio transmitters are tested to the worst case scenario and conditions against the maximum permissible exposure limit set by the FCC. When an advanced meter is transmitting, the exposure to radio frequency energy is more than 16 times lower than the exposure limit set by the FCC. For information and additional resources on the Town's AMI network and RF safety, view the data sheet here.

Since March 27, 2013, the FCC has taken additional strides to review existing rules and RF exposure guidelines to periodically review regulations as a good government practice and provide the opportunity for open dialogue between qualified expert agencies and organizations, as well as the general public to keep or modify current rules and policies on RF exposure. To learn more about the FCC's policy on human exposure and RF safety, visit its FAQ page here. Together with the FCC are other governmental agencies that consistently monitor and regulate RF safety. These federal health and safety agencies include the EPA, FDA, National Institute for Occupational Safety and Health (NIOSH), National Institute of Environmental Health Sciences (NIEHS) and the Occupational Safety and Health Administration (OSHA).

HOW IT WORKS

Radio Frequency Safety Information