Water Conservation – Partnering to Save Water

Essex County Environmental Commission

Verona, NJ

April 4, 2016

Water Conservation – Typical Water Saving Measures Within the Home

- Wash fruits and vegetables in a pot filled with water instead of under an open faucet. Reuse the water for houseplants.
- Close the faucet while brushing your teeth, shaving or washing your face. This one tip can lead you to save up to 3,000 gallons per year.
- Wash dark clothes in cold water to save on water and energy while helping your clothes retain their color.
- Soak pots and pans instead of letting the water run while you scrape them clean.
- When using the washing machine or dishwasher, make sure it is fully loaded. Also, use the light wash setting on your dishwasher.
- Put food coloring in the toilet tank. If colored water appears in the bowl without flushing, there's a leak that needs repairing.
- Defrost frozen food by putting it in the refrigerator rather than running water over it. This saves water and is safer.
- Shortening shower time by a minute or two can save up to 150 gallons per month. A short shower uses less water than taking a bath.
- Keep a pitcher of water in the refrigerator rather than running the faucet

Water Conservation – Higher Impact
Water Saving Measures Within the Home

- Replace older toilets with ones that have a WaterSense label. Old toilets use 3.5 to 7 gallons of water per flush, while the new standard is 1.6 gallons. This can reduce the amount of water a family uses for toilets by 20 to 60 percent. A running toilet can waste up to 200 gallons per day.
- Replacing just a single showerhead with a WaterSense-certified one can save the average family up to 2,900 gallons in a month.
- Collect rainwater in rain barrels. This water can be used for many daily tasks, both indoor and outdoor.
- Install a pressure-regulating valve to reduce the pressure of water entering your house to 60 pounds per square inch (psi). This helps with leaks, saves water and money and can lower the chance of damage from burst pipes.
- Insulate hot water pipes. This gets hot water to the user more quickly, reducing the amount of water wasted and decreasing your utility bills.
- An easy-to-install inexpensive faucet aerator devices can reduce water use by faucets by up to 60%.

Water Conservation Outside the Home – Typical and Atypical Measures (USEPA)

- Check your system for clogged, broken or missing sprinkler heads. Examine points where the sprinkler heads connect to pipes or hoses. If water pools in your landscape or you have large wet areas, you could have a leak in your system.
- Direct sprinklers to apply water only to the landscape.
- An improperly scheduled irrigation controller can waste water and money. Update your system's watering schedule to align with the seasons, or select a WaterSense labeled weather based irrigation controller to take the guesswork out of scheduling.
  - Controllers that store historical ETc data characteristic of the site.
  - Controllers that utilize on-site sensor as a basis for calculating real time ETc.
  - Controllers that utilize a central weather station as a basis for ETc calculations and to transmit the data to individual homeowners from remote sites.
  - Controllers that utilize on-site rainfall and temperature sensors.
  - Control technology that is added on to existing time based controllers.

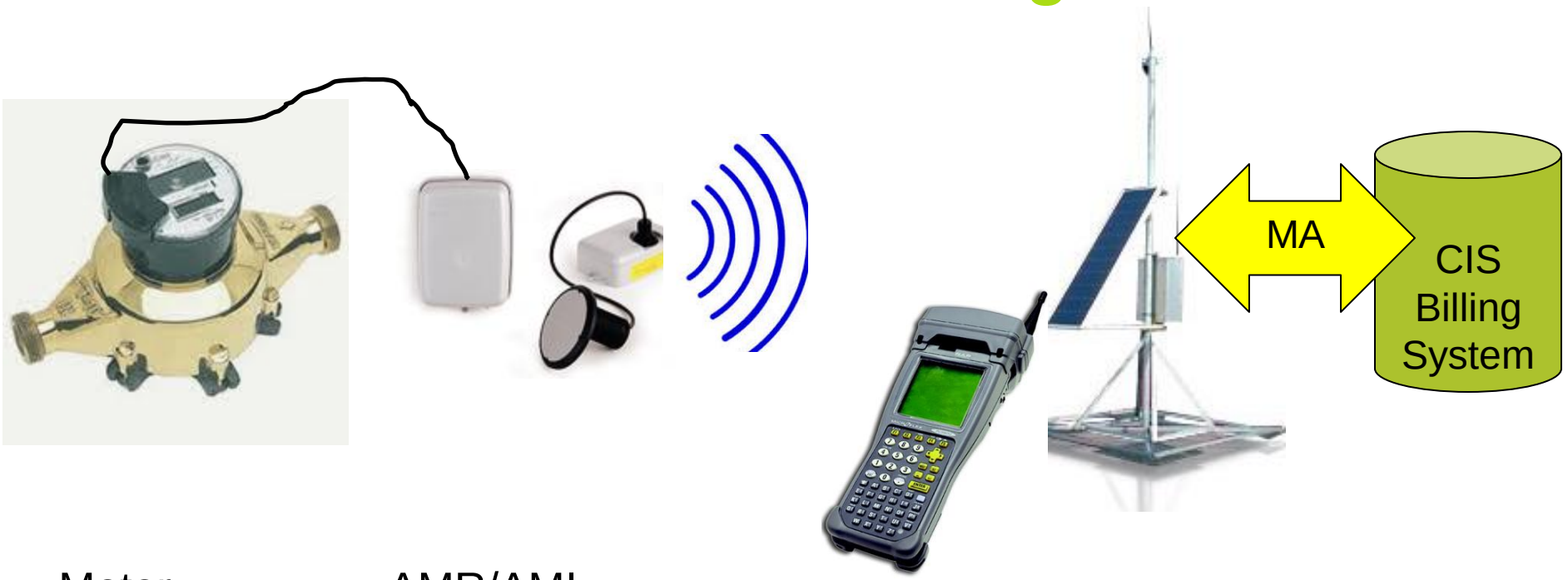
SUEZ Enhanced Meter Reading Initiative

Enhancement to our meter reading technology

Reading meters in multiple ways using existing radio frequency infrastructure provides SUEZ with a higher level of awareness about water consumption and enables customers to make informed choices about usage.

- **AMR** (Automatic meter reading):
  Handheld or mobile collectors (trucks, vans, walking) or personnel using handhelds for quarterly or monthly readings.
- **AMI** (Automatic Meter Infrastructure):
  Fixed collectors (rooftops, poles) contiguous meter reading coverage over our service territory.
- Near-real time communication between a smart utility meter and the utility company.

How Enhanced Meter Reading Works



Meter with encoder

AMR/AMI endpoint transmitter – regular & pit option

Low-powered radio signal

Handheld, Mobile or fixed collectors

Meter Analytics application interfaces with CIS Billing System

Benefits of Enhanced Meter Reading

Enhanced customer service experience:

- Real-time customer-side leak detection and conservation information.
- Proactive notifications and alerts (text/email to customer “Please check your plumbing fixtures, our systems have detected a leak starting at 8PM 1/9/2014”).
- Enable the precise data needed to support conservation, set budgets & thresholds.
- Give customers total access to their consumption.

More efficient network

- Water meter reading efficiency and accuracy will be improved: Maintain/exceed current actual read rate of 97% and quality of billing.
- Comprehensive distribution network monitoring system:
  - Real-time backflow and theft detection.
  - Allows reallocation of personnel to additional production & distribution maintenance.
  - Early detection of meter failures, billing accuracy improvements.

Enhanced Meter Reading Initiative

Meter Data Management

- Active monitoring and analysis of meter reading data for field investigations have detected theft of service, leaks, reverse flow (improperly installed meters), stuck meters.
- Reduce Non-Revenue Water (NRW).
- Eliminate wasted field trips with focus on efficient service completion.
- In 2012 a pilot study of an area with ~7600 accounts resulted in 20 field confirmed cases of meter tampering.

SUEZ Water NJ Footprint & Coverage

- 203,000 customers.
- 97% of customers already have a transmitter (as of 4Q 2013).
- Service in approximately 60 municipalities & towns.
  - Meters are read daily on varying cycles across the network for monthly and quarterly billing.
- Improved remote meter reading equipment strategy: Proactively install the endpoints (i.e. R900) on the exterior of buildings going forward to improve reception.

SUEZ Water New York Conservation Study 2015/2016

Scope of Work

- Task 1: Conservation study review;
- Task 2: Customer surveys;
- Task 3: Consumption data analysis;
- Task 4: Conservation program evaluation;
- Task 5: Water savings & cost-benefit analysis;
- Task 6: Impact of conservation program on future revenues;
- Task 7: Report including conclusions, recommendations and implementation plan.

Contact Information:

Raymond J. Cywinski
SUEZ Water NJ
Manager Watershed & Environmental Resources
ray.cywinski@suez-na.com
Office: 201-599-6014