Meeting Summary
Orange Water and Sewer Authority
Natural Resources and Technical Systems Committee
July 30, 2013 (5:30 p.m.)

Members Present

Terri Buckner (Chair), Dana Raborn, Amy Witsil, Stephen Dear, Michael Hughes

Other Board Members Present

John Young, Heather Payne

Staff Present

Ed Kerwin, John Greene, Pat Davis, Ruth Rouse, Mary Darr

Visitors Present

None

Major Items Discussed:

Staff provided the Committee with information on smart metering systems. Major points made during the meeting included:

- OWASA has been spending approximately $150,000 per year on its small meter maintenance/replacement program. All new meters installed provide for automatic meter reading with a mobile ("drive-by") collector. The ability to obtain meter readings via a mobile collector has greatly increased staff meter reading efficiency (meter reader can read approximately 250-275 meters per day with existing hand-held data capture units vs. 250-300 meters read per hour with radio-read, drive-by AMR method). Our current radio read metering system does not include the technology to turn them on/off remotely or enable OWASA and our customers to have near real-time review of their water use data. The automatic meters used can store the past 70 days of consumption data but downloading this information requires a field visit to the individual meter to upload the usage data to a laptop.
- Upgrading to a fixed network advanced metering infrastructure (AMI) system would allow customers to view usage and staff to remotely handle many types of service requests.
- It will cost approximately $5 million to upgrade OWASA's system to a fixed network AMI system. The CIP does not currently include funds for an AMI conversion project.
- Depending on assumptions, the simple payback period could be 10 years or more.
- The costs and benefits of converting to an AMI system must be weighed against the costs and benefits of other capital and O&M needs.
- The attached handout summarizes the cost/revenue considerations and some of the advantages and disadvantages of AMI.
- AMI would improve efficiency/reduce costs in responding to service initiation/termination requests.

- An alternative implementation approach could be to phase the AMI conversion process. A potential first phase would be to implement AMI on the main campus and adjacent areas where the greatest number of service requests are received (primarily for service initiations and terminations associated with tenant changes in rental properties) and the AMI infrastructure would be minimized.

The NRTS Committee requested that staff follow up with the following items:

- More detailed information on the cost to pilot AMI around the University's main campus
- Summarize available data from local governments who have implemented AMI on the impacts to water conservation.

Next Meeting

Time for the next Committee meeting will be determined at a later date in consultation with the NRTS Committee Chair. The next topic is on renewable energy, and Ruth will send out an email soliciting questions Committee members would like addressed during that presentation.

Adjournment

The meeting was adjourned at approximately 7:10 p.m.

Ruth C. Rouse

Meeting Summary Prepared by: Ruth Rouse, AICP
Planning and Development Manager

AUTOMATIC METER READING

NRTS Committee Meeting
July 30, 2013

SUMMARY INFORMATION

COST RELATED TO AMI (Advanced Metering Infrastructure) FIXED NETWORK SYSTEM:

- Estimated AMI infrastructure cost: $4,750,000
- Estimated annual AMI operating & maintenance cost: $40,000
- Estimated annual O&M (personnel, equipment) savings: $260,000
- Estimated annual revenue gain: $265,000
- Simple Payback: approximately 10 years

ASSUMPTIONS RELATED TO COST OF FIXED NETWORK AMI SYSTEM:

- Number of repeaters, collectors, hosting and maintenance cost do not exceed AMI Pricing Proposals from Mueller Systems (Hersey) received April 1, 2013 & May 30, 2013
- Meter replacement cost (meter plus installation) does not exceed an average of $300 per meter
- AMI meter battery life meets 20 year life expectancy
- Newer meters provide for increased registration
- An annual manual reading of meters will be performed

STAFF OBSERVATIONS:

- Need better understanding about value of AMI versus other Capital and O&M needs
- Large investment for full conversion works against affordability
- AMI technology is still improving
- Possibility exist for hybrid or phased approach to full conversion (small area first)

ADVANTAGES AND DISADVANTAGES OF AMI SYSTEMS APPROACH	
Advantages	**Disadvantages**
COST, EFFICIENCY, AND OPERATIONAL CONSIDERATIONS	
▪ Reduced operating costs (fewer staff, vehicles)	▪ Large upfront expenditure
▪ Potential for increased revenue recovery from improved meter accuracy	▪ Annual hosting, service and maintenance fees
▪ Improved accuracy; fewer re-reads	▪ Unauthorized access to data/network
▪ Availability of on-demand readings for new service and final bills	▪ Increased technical complexity with associated risks (battery life/performance, etc.)
▪ Improved worker safety	▪ Effect on current meter reading staff; reduced labor pool for emergencies
▪ Identify and follow-up on water theft, metering tampering, etc.	▪ Annual or bi-annual manual reading of AMR/AMI meters recommended
▪ Identify potential reverse flow/backflow issues and situations where meter may not be proper size	▪ Data analytics and related services could require new staff with different skillsets
	▪ Damaged meter boxes will not be identified & repaired as quickly
	▪ "Wasting" useful remaining life of meters now in service
CUSTOMER SERVICE CONSIDERATIONS	
▪ Improved billing and consumption analysis tools - On time readings - Consistent billing frequency - No estimates due to weather issues - Proactive notification to customers - Customers have on-line access to usage data	▪ Substantially reduced staff presence/visibility - Customer belief meters not being read - Customer interaction with Meter Reader - Less opportunity for staff detection of system problems in the field (leaks, overflows, valve box damage, etc.)
▪ Faster response to customer inquiries, service initiation and termination requests, etc.	▪ Customer "privacy" and "big brother" concerns
▪ Reduction in number of customer calls, high bill disputes, etc.	
▪ Improved overall customer "experience"	
ENVIRONMENTAL/NATURAL RESOURCE CONSIDERATIONS	
▪ Enhanced tool for conservation, drought response, etc. - Leak notification - Better target outreach & education efforts - Ability to bill in smaller increments - Data can be used for rate design, water resource management, system modeling, etc.	▪ Meter leaks on OWASA side not detected as quickly as with current process
▪ Reduced carbon emissions associated with meter reading and field service operations, water use, etc.	▪ Battery production and disposal concerns