

Tohono O’odham Utility Authority

Full-Cost Pricing for Successful Preventative Operations and Maintenance

The Tohono O’odham Utility Authority (TOUA or Utility) provides drinking water, wastewater, propane, electric, internet and telephone services to residents living on tribal lands of the Tohono O’odham Nation. TOUA’s drinking water program is responsible for operating and maintaining 29 Community Water Systems (CWSs) distributed over 2.8 million acres. Despite the logistical challenges of a large coverage area, TOUA provides customers with quality drinking water at reasonable rates. In the last several years, TOUA’s drinking water and wastewater department (the Department) has achieved its goal of becoming a “zero bottom line utility” through a combination of a sound rate structure, successful fee collection and proactive management of operation and maintenance (O&M) expenses. As a zero bottom line utility, the revenue from customer fees is equal to or greater than utility expenses. This approach uses a full-cost pricing rate structure.

Benefits

The Department realizes many benefits from its strong billing and collection program. As recently as 2012, the drinking water and wastewater program costs exceeded revenues.

Achieving a zero bottom line has also allowed the water and wastewater department to focus on effectively utilizing staff and planning for future improvements. The Department has been able to develop innovative approaches to proactively address customer needs. One example is TOUA’s plumbing service program. By offering customers basic plumbing services for a reasonable fee the Department is better able to manage leaks, thus reducing long term maintenance costs.

TOUA staff also noted the significant benefits and reduced O&M costs that rural systems can achieve through incorporating technological upgrades. The Department was recently able to implement the projects that are described below in an effort to further improve system efficiency and staff utilization.

- ◆ The Department upgraded their billing software and developed a web portal so customers can see their balance and usage and pay their bills online. In the past, most people were travelling to the headquarters office in Sells, Arizona to pay their bills, a drive of 60 to 70 miles for many customers.
- ◆ TOUA is in the process of replacing old electric meters with automatic read meters, and plans to do the same for water meters in the near

Tohono O’odham Utility Authority’s Purpose

- ◆ *To plan for, provide and furnish utility services to all areas within the Tohono O’odham Nation, where such services are determined to be feasible and economic.*
- ◆ *To promote the use of utility services where available in order to improve the health and welfare of the residents of the Tohono O’odham Nation.*
- ◆ *To acquire, construct, operate, maintain, promote and expand utility systems.*
- ◆ *To provide utility service to the Tohono O’odham at the lowest possible cost consistent with prudent fiscal responsibility.*
- ◆ *To use the revenues of the Authority ... to pay the costs of operations and maintenance; to amortize the loans of the Authority; to fund an adequate Renewal and Replacement fund; to educate the Tohono O’odham people in the proper, efficient and economical use of all utilities; to accelerate the retirement of long term debt; to provide a fair return to the Nation on its investment.*

- Adapted from TOUA 1999
Plan of Operation

future. Reducing the time staff spend manually reading meters will increase efficiency and reduce O&M costs for the utility.

Background

TOUA is owned and operated by the Tohono O’odham Nation, which covers over 2.8 million acres west of Tucson, Arizona. The Tohono O’odham Nation’s headquarters is located in Sells, Arizona. TOUA was established as an enterprise by the Tribe’s Legislative Council in 1970¹. TOUA currently operates in accordance with the requirements of a "Plan of Operation" approved by the Tribe’s Legislative Council. The Plan of Operation defines TOUA’s purpose and establishes a Management Board. The Management Board consists of seven Directors, three of which are required to be members of the Tribe. The other four Directors must have business management experience, three of whom must have experience in management and operations of a utility. The Management Board develops business plans to provide utility services to the Tribe and establishes policies, rules and regulations for service.



Figure 1. Location of Tohono O’odham Nation Reservation.

TOUA Drinking Water and Wastewater

TOUA’s drinking water program serves over 3,000 customer connections, including 2,800 residential connections and 357 commercial connections. The wastewater program serves over 1,700 customer connections, including 1,600 residential connections and 183 commercial connections. There are 25 total employees in the water and wastewater department. TOUA has staff dedicated to billing and administrative tasks that support the financial health of the water and wastewater department.

In 2002, the TOUA drinking water program managed over 50 CWSs. Today the number of CWSs has been reduced to 29 through consolidation activities, which allows for more cost-effective infrastructure management at each CWS. TOUA is currently working with the Indian Health Service (IHS) and the Environmental Protection Agency (EPA) to further regionalize

systems through consolidation, with a goal of reducing the number of wells and water storage tanks that need to be maintained. The Department still operates and maintains 57 wells.

Rate Structure and Billing Program

Rate Structure

TOUA’s rate structure, billing and collections program originated in the late 1980’s to early 1990’s when utility management developed a customer education program that included a written disconnection policy. Today, TOUA uses a step rate structure with a declining block rate. The rates are heavily loaded in fixed charges, so

¹ By Tohono O’odham Nation Resolution No. 18-70 approving the TOUA Plan of Operation.

small changes in customer usage don't impact the Department's revenue stream. A series of rate increases over a three (3) year period, the most recent in 2016, allowed the Department to achieve its goal of becoming a zero bottom line utility.² The first rate adjustment brought the Department into solvency, while the second rate adjustment allowed the Department to generate revenue that is used to maintain adequate staffing and perform deferred maintenance tasks. TOUA calculates rates based on operating costs and rates at comparable systems in the region. TOUA funds fixed operating costs in the flat fee portion of the customer's bill, while costs related to volume of water consumed (such as chemical treatment) are accounted for in the variable portion of the bill.

All residential, commercial and irrigation TOUA customers are metered with specific rates for each customer type. Although the cost to provide water is higher at more remote systems, the same rates are applied across all CWSs on the reservation so that fees are equitable between customers.

The Plan of Operation gives the Management Board authority to approve the utility rates. The board feels that rates must be adequate to operate and maintain the Department but also reasonable and as low as possible. As such, the Tribe has a provision that if 5 percent of the customers raise concerns about the rate increase, the Tribe will retain an independent entity to determine whether the rates are considered reasonable. The 5 percent threshold has not been exceeded during the tenure of the current Management Board.

Billing and Collection

Administrative staff monitor the accounts received and work with customers that are delinquent on payment. Customers are subject to having their service cut off if they are more than 20 days late in paying their bill. Qualifying customers (those who have not had their service disconnected within the prior twelve months) have an opportunity to ask for a deferred payment plan. Approval for a deferment plan is based on payment history and ability to pay and is typically designed to bring the account current within 4 months. A customer must honor the conditions of their initial repayment plan before they can be considered for a new payment plan, and a customer may only have one active deferred payment plan at a time.

Subsidy programs funded by gaming revenues are available for TOUA's low-income and elderly customers. These programs are utilized by about 500 low-income customers and 400 elderly customers. Subsidy recipients receive an average of \$86 per month towards their utility bill. The subsidy is first applied to water charges, then electric, propane and telephone in that order. There is also a national energy assistance program which helps individual customers pay their balances. Customers can also go to the legislative council or district representative to seek financial assistance with utility bills.



Figure 2. TOUA plumber accessing a sewer line. *Photo credit: TOUA.*

² The TOUA does not report a loss but rather reports a zero balance and revenue to invest in the utility.

Challenges

Achieving the goal of becoming a zero bottom line utility requires successfully collecting user fees as well as keeping O&M costs within budget. Serving customers that are spread over 2.8 million acres creates numerous challenges for the Department for operating and maintaining each CWS and ensuring compliance in an economically viable manner. Although efforts are underway to consolidate systems, there are systems serving only 10-15 people that are too remote to be intertied or connected.

Service territory size and customers per mile of pipe is an ongoing issue for the Department. For example, one or two staff are responsible for operating and maintaining 9 arsenic treatment systems and must check the systems daily. Since the systems are spread across a large geographic area, this results in a substantial number of person-hours and transportation costs.

Whenever possible, TOUA tries to find cost-effective solutions for operating and maintaining infrastructure over a large area. Some of those solutions include:

- ◆ Fire suppression—Currently tanks and water mains are not sized to provide fire protection. Rather than increase main size to accommodate fire flows, TOUA is working with the Tohono O’odham Nation to consider a requirement for buildings to install individual sprinkler systems for fire suppression.
- ◆ Customer response—Investigating customer complaints is an activity that requires significant driving time and labor. When a complaint is received, TOUA utilizes a vehicle tracking system so managers can direct staff that are already in the area to respond to customers efficiently. This helps reduce employee travel, saving time and money.
- ◆ Same-day reconnection—Customers subject to having their service shut off are offered a lower reconnection fee if they settle their account the same day. Travel costs are saved if the operator can turn service back on the same day rather than returning to the area.



Figure 3. A water main connecting two Tohono O’odham communities. *Photo credit: EPA R9.*

Keys to Success

When asked to describe the key components of a successful rate structure and billing program, TOUA General Manager Mike Bethurem emphasized that it is imperative for utilities to be very consistent on their policies. He also stressed that it is important to make sure customers understand that they have an obligation to pay their bills, just as the utility has an obligation to pay its bills. Bad debt write-off was a common occurrence in the early years of TOUA, but today the utility's policies are strictly followed. At the same time, the utility is proactive in helping customers obtain financial assistance for utility bills when needed. Mr. Bethurem also stressed that maintaining a strong relationship with funding agencies is critical as it helps utilities procure outside assistance to address unmet capital improvement needs.

Myrt McIntyre, TOUA Operations Manager, also noted that the utility has benefitted from progressive management. She explained that customer input are the driver of TOUA's services. TOUA is continually trying to think outside the box for solutions for their unique systems and expansive customer base. The Utility focuses on effectively utilizing staff and improving system efficiencies, including incorporating new technologies in order to maximize resources.

Looking to the Future

TOUA has identified a number of system improvements and asset management tasks which will ensure the continuation of reliable and safe water for TOUA customers. The Department's future plans include:

- Continuing meter replacement and upgrades.
- Conducting a leak detection assessment.
- Developing and implementing an exercise plan for system valves.
- Replacing service lines.
- Streamlining management processes to improve staff efficiencies.
- Collaborating with a local community college to develop an apprenticeship program.
- Continuing to address deferred maintenance tasks.

TOUA identified public relations and customer education as program areas they are working to strengthen. Currently, TOUA educates customers about water savings ideas and how to keep costs down through water conservation. The utility also has an annual customer appreciation day which includes presentations about water efficiency and conservation.

Customer-Specific Solutions: TOUA's Plumbing Service Program

Ensuring operation and maintenance costs stay within budget is critical to keeping rates affordable for customers. To balance high treatment costs, TOUA works to keep per capita water use consumption relatively low and maintain an efficient system with minimal water loss. As part of this effort, TOUA has implemented the Plumbing Service Program.

Under this program, TOUA employs a certified plumber who is available to help customers for an additional fee if they need repairs to their household plumbing. There are currently very few certified plumbers servicing the Tohono O'odham Reservation, so the program provides customers with a service they would not otherwise have access to. The program is beneficial to both the customer and the utility because it reduces water loss in the system overall.

TOUA is also partnering with a local community college as part of the Plumbing Service Program. Students in the college's plumbing program have the opportunity to apprentice with TOUA's utility plumber. The long-term goal is for graduates to start their own plumbing businesses so that TOUA won't need to keep a plumber on staff in the future.

In the future, TOUA would like to expand their customer education programs. However, further development of these programs would require additional staff and budget. TOUA will continue to evaluate the benefits of customer education programs and implement them in a way that is sustainable for the Department.

The TOUA drinking water and wastewater department is also looking to improve communications with the Nation's district councils. The Nation consists of 11 districts, each with its own council. Recently, TOUA proposed a strategic plan aimed at strengthening communication with the district councils to discuss water and wastewater issues. The plan recommends visiting each district once per year to exchange information and ideas, and to discuss any complaints regarding TOUA services. While it has been logistically challenging to schedule these meetings, the meetings to-date have been very successful.

Going forward, TOUA will continue to explore strategies to strengthen customer relationships, while continuing to provide reliable and efficient service at affordable rates.



Figure 4. TOUA staff working on a meter. *Photo credit: TOUA.*