

## Plumbing Assistance Programs for Economically Disadvantaged Customers

### **Applicability**

Plumbing Assistance Programs offer two types of savings: water conservation for utilities and reduced bills for customers. A utility may elect to establish a Plumbing Assistance Program in order to achieve either or both types of savings. Although the savings goals may impact decision making in developing the program, the first, and most critical step, is ensuring there is actually an economically disadvantaged customer group significant enough to be engaged and to support the program. *Without this target customer base, the program will not be successful.* For example, the San Antonio Water System has successfully operated a Plumbing Assistance Program for the last several years. This works because 20% of San Antonio's population is at Federal Poverty Levels.<sup>1</sup> Therefore, there is a customer base that both benefits from, and supports a Plumbing Assistance Program in San Antonio.

### **Description**

Plumbing Assistance Program is a residential program focused on making plumbing repairs in single-family homes owned by customers. Utilities and socio-economists have both observed that low-income homeowners are less likely to make water-saving repairs due to the cost, and that some repairs may be altogether cost prohibitive for low-income customers.<sup>2</sup>

Additionally, it is often the case that customers incurring large water bills as a result of major leaks have difficulty not only in paying for the cost of the repair, but also in paying their increased water bills. By making these repairs, customers may experience lower, more manageable bills and become more reliable customers with respect to paying their bills.

The program is premised on the idea that by making plumbing improvements and repairs to potable water leaks in a home that might otherwise go without, customers are assisted in reducing their overall consumption, thereby lowering bills, and simultaneously, water conservation occurs.

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<sup>1</sup> San Antonio, United States Census Bureau, (Oct. 14, 2015), *available at* <http://quickfacts.census.gov/qfd/states/48/4865000.html>.

<sup>2</sup> Beecher, Janice, et al., *Socioeconomic Impacts of Water Conservation* (2000). "Low-income households may have trouble raising and allocating the capital to invest in such repairs." *Id*; See Hasson, David S., *Water Utility Options for Low-Income Assistance Programs* 94:4 (Amer. Water Works Ass'n J 128 (Apr. 2002)). The Water Utility in Portland Oregon instituted a fixture repair program designed to help low-income homeowners make plumbing fixture repairs that caused billing increases. *Id.* at 132-133. The program was expanded to include repairs that are in "relatively inaccessible locations because low-income customers tend to lack the resources to repair these leaks." *Id*; see Louie, Josephine, et al., *The Housing Needs of Lower-income Homeowners*, Harv. Univ. (1998). "Lower-income owners are also less likely than other owners to" make repairs such as plumbing repairs. *Id.*

In addition to making repairs to potable water leaks, the program protocol calls for replacement of high-use fixtures (up to two high-flow toilets, replacement of high-flow showerhead, and installation of aerators (1.75gpm)). Plumbing Assistance Program Plumbers to People program does not repair luxury items not required for health and human safety. Examples of luxury items are spas, irrigation systems, water softeners and pools.

### **Implementation**

These steps for implementation can be used as guidelines in developing a plumbing assistance program. Some of these steps may begin to occur simultaneously or may have to be revisited and modified after they were thought to be complete. For example, it will be helpful to share ideas with other utilities throughout the development of this program.

1. Evaluate the customer base and develop method for reaching the target customer.
  - Determine data source for evaluating customer base and identifying target customer group. Evaluate the customer base to ensure there is a demographic that will be served by the program.
  - To develop criteria identify what attributes make the customer ideal for the program i.e. income, neighborhood, home value, unusually high consumption for the household demographic group. *See below for an example list of criteria with rationale for each point.*
2. Talk to other utilities that have a program in place about their approaches and experiences. Ask if they are willing to share any of their planning or development documents including bid documents, data collection programs or past program analysis. Talk with them about the criteria you have established and any tentative goals for the program. ***It is important to note that what works for one utility may not work at another. This program is most effective when customized for a specific customer base.***
3. Establish program goals
  - Program goals can include everything from testing pilot efforts to making certain types of repairs or replacement and saturating a particular low-income neighborhood to achieving a certain volume of water savings.
  - Determine the extent of plumbing repairs/work that will be covered by the program.
  - Consider how the program will be promoted and any limitations such as caps on the number of homes served, limits on the number of visits to a single home, limits on the amount spent at each home, or time constraints.
4. Organize a referral or enrollment system to qualify customers for the program. Affordability or outreach departments within the utility itself may be a source of referral. Alternatively non-profit organizations or city offices like health departments may work.

5. Identify what metrics need to be tracked to illustrate program progress, success and failure, and create a tool or approach for analyzing the program
  - Some examples of performance metrics that may be useful in analyzing the program are water saved, average expenditure per home, zip code or city district, number and/or types of repairs made, whether the homeowner is a senior, disabled, or falls into another identifiable group that may require home maintenance assistance.
6. Plan for the administrative process
  - Consider who will take on what responsibilities and how information may need to be shared among staff.
  - Develop a database to store and track the collected data.
  - Consider creating a protocol that outlines the intent, rules, and various steps of the program.
  - Consider how plumbing invoices will be received, recorded, and tracked.
  - Have an approval process for plumbing services performed. It may be that when plumbing services reach a certain price point, those repairs merit Planner/Managerial approval, and that other amounts trigger Directorial authorization, etc.
  - Pre-determine how customer information will be shared with the plumbing services provider.
7. Coordinate plumbing services
  - The most common way to coordinate plumbing services is to contract with a plumbing company. In contracting for services, it is important to develop a price menu for services covered by the program. It is also important to include any price tiers that trigger approval requirements in the contract.
  - Alternatives to contracting may be more useful to some utilities. One example of an alternative is a Call for Participation that allows for participation by more than one plumbing company and more control over pricing.
8. Evaluate the program to determine what improvements should be made to improve efficacy.

### ***Customer Criteria Example***

Identifying the target customer group, and then finding ways to reach them and make the program known to them is critical to program success. For this reason it is important to think carefully about those customer attributes that will help identify customers who will benefit most and that will help the utility reach customers in a way that is beneficial to the utility. The following criteria are examples that may be used in establishing eligibility.

- Customer must be a residential class customer in a single family residence.
  - *This program is intended to aid homeowners who experience significant leaks resulting in substantial, often unmanageable, bills. Multi-family residences are generally operated by management companies or landlords who are responsible for maintenance services that maintain or repair plumbing and plumbing fixtures.*
- Customer must both reside in and own the home in need of service
  - *This criteria is an effort to ensure the longevity of the investment made by the program.*
- Customer must be a water customer. Sewer only and storm water only customers are not eligible for this program.
  - *This program targets high consumption of potable water sources. Some utilities operate separate programs that provide sewer assistance.*
- Programs may have different qualifying or referring entities such as Health or Human Services agencies, non-profit organizations, or a department that makes internal referrals such as a utility's Customer Service, Affordability or Billing departments.
- Customers must meet 125% of FPL guidelines. This standard is useful because Health and Human Service Departments in many places use this standard in qualifying people for a variety of assistance programs. The FPL Guidelines for 2015 are listed below.

**FPL 2015<sup>3\*</sup>**

<b>Size of family unit</b>	<b>125 Percent of Poverty</b>
1	\$14,712
2	\$19,912
3	\$25,112
4	\$30,312
5	\$35,512
6	\$40,712
7	\$45,912
8	\$51,112

\*For families with more than eight members, add \$4,160 for each additional family member

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<sup>3</sup> U.S. Dept. of Health and Human Serv., Federal Poverty Guidelines (Jan. 21, 2015), *available at* <http://www.nlegalclinic.org/Portals/0/2015%20Federal%20Poverty%20Guidelines.pdf>

- Home value should not to exceed \$300,000 (per County Appraisal District).
  - This number is a sample, but whatever number chosen by the utility should be based on home values in the areas that will be served by the Plumbing Assistance Program. Periodically, the home value requirement should be reviewed and adjusted for changes in home values in the areas served by the program.
- Home located in designated zip codes.
  - The designated zip codes are based on census data indicating areas that experience low income, and have low home value but high home ownership.
- Consumptive use must exceed the prescribed amount for the family size.
- Customer qualifies by either being referred through a partnering non-profit organization or through direct invitation from the utility or the qualifying entity.
- A Customer remains qualified for six months, unless the utility or qualifying entity learns of a change in status of any of the qualifying criteria. A Customer may also be disqualified if they are non-responsive to contact made by utility staff, representative from the qualifying entity and/or by the plumber to schedule an appointment for assessment and service.

### **Scope and Schedule**

The scope and schedule may vary largely depending on the utility. For example, a utility that seeks referrals from non-profit organizations that it has worked with in the past may move more quickly to negotiate that service than a utility that needs to research local non-profits and start developing that relationship from scratch. Another example is the time it may take to develop a tool to track the collected data.

### **Water Savings Calculations**

Tracking water savings for this type of program only requires two pieces of data: customer consumption prior to participation and customer consumption post participation. Water savings are calculated by finding the difference. The pre- and post-participation numbers can be represented by different metrics. One example, is the actual difference in consumption among the participating households. Another, the percentage of homes that return to expected consumption levels based on household size. Yet another, changes in per capita among the participants.

Despite only needing two variables to find savings, it is important to keep in mind that there are a number of variables that may impact the results. For example, the number of people in a household may impact consumption; further, the number of adults compared to children in a household may impact consumption. Other examples are the

type of leak the household is experiencing, and whether any catastrophic events occur people may turn water off and turn it on only as they need it. Because of these potential influences on the water savings calculation, it is important to gather as much information about the customer base as possible so that the calculations are as educated, exacting and precise as possible. Additionally, but no less important, is that whatever metrics are used, they should be representative of indoor use only since most low-income do not have significant volumes of outdoor use. Accounting for outdoor use could skew the results depending on how the savings calculations are performed.

### ***Water Savings Example***

One way to assess potential savings when beginning this type of program, is to take a random sample of qualified customers and find the potential water savings between their current winter average and what their expected winter average is. For accuracy, and if available, staff could find an average of a few years' of winter averages to avoid the influence of any major leaks or other catastrophic events.

### **Cost Effectiveness Considerations**

The primary expenses for this type of program are the plumbing services and repairs, expenses for referrals made from entities external to the utility (if any), and the value of staff time and resources used on the program.

Considerations for cost effectiveness should include the cost of operating the program over and against the dollar value associated with the water savings. Another way to evaluate cost effectiveness is by balancing the dollar value associated with the average water savings per home against the average cost per home to provide plumbing services. Savings over and against the cost of the project can be estimated in advance. Tracking the water savings and expenses allows utility staff to refine estimates and improve accuracy.

### **Determination of the Impact on Other Resources**

This program requires significant administrative oversight if it is to be operated in a meaningful way. The greatest impacts in running this program are on utility staff who manage and oversee its operations. Early on, setting up the administrative process and negotiating the plumbing services will take some time. Once the program is fully operational, staff will have to do things such as manage the invoices, perform spontaneous and unscheduled site checks to inspect the plumbing services, track and record data, and handle the referrals. Ultimately, the impact to staff will depend on the scope and scale of the project, as well as efficiency in program management. Some tools may help mitigate the impact, such as online application or referral systems, the format of referral information coming from outside sources or other departments within the utility. Databases or customer information systems (such as Customer Service or Billing Systems) that can generate reports into digital formats can also help reduce the manual labor otherwise required by staff.

**References for Additional Information**

Beecher, Janice, et al., *Socioeconomic Impacts of Water Conservation* (2000).

Hasson, David S., *Water Utility Options for Low-Income Assistance Programs* 94:4 (Amer. Water Works Ass'n J 128 (Apr. 2002)).

Louie, Josephine, et al., *The Housing Needs of Lower-income Homeowners*, Harv. Univ. (1998).

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Wolff, Aubry, et al., *Utility Customer Profile Guide for Water Conservation Planning*, Texas Water Resources Institute (2015), available at <http://twri.tamu.edu/publications/educational-materials/>.