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# REVIEW AND RECOMMENDATIONS FOR IMPLEMENTING WATER AND WASTEWATER AFFORDABILITY PROGRAMS IN THE UNITED STATES

March 2014

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# EXECUTIVE SUMMARY

Across the nation, water and sewer bills are skyrocketing. From 1990 to 2006, water and wastewater bills increased by 105.7 percent—a 4.6 percent average annual increase. Over that same time period, median household income increased by 61 percent, or an average of 3.0 percent per year. The price of water is anticipated to rise even more, particularly for customers of municipal utilities, with anticipated repairs and replacements of aging systems. Because a water utility's revenue generally is comprised only of customer (i.e., ratepayer) revenue, the largest burden of funding these anticipated cost increases will likely fall on customers, including low-income customers. In some areas, water rates are rising faster than any other utility rate, including heating bills. While states require that electric and gas companies provide discounts to their low-income customers and telephone discounts are also available to poor consumers nationwide, most states lack any requirement that water/wastewater utilities provide a discount program to low-income customers.

A basic tenet of public utility regulation is that authorized rates need to be reasonable. The creation and success of necessary water affordability programs can be achieved when agencies possess explicit statutory authority to implement any reasonable affordability program to ensure "reasonable" rates. Current programs offered by water and wastewater utilities for payment-troubled customers are limited and even the utilities themselves have indicated that current assistance programs are not sufficient to address current needs.

## Key Recommendations

Utilities, public utility commissions, and federal and state government could consider the following recommendations to efficiently increase affordability of water and wastewater service for low-income customers and to help these customers better manage their bills related to this basic necessity. The recommendations are those of advocates from the National Consumer Law Center.

1. **Measures used to determine the affordability of water and wastewater rates to residential customers should be broadened.** Affordability measures should include household size and income, size of approved rate increase, and rate of customer growth in the system. An affordability analysis should also focus on customer ability to pay, including the level of past due bills and the rates at which service is terminated and reconnected. Qualitative measures could include whether payment of water and sewer bills compromises ability to pay for other basic necessities, such as food and shelter, and a review of whether other assistance programs are available to the consumer.

2. **Flexibility is key and should be incorporated into policies to achieve water and wastewater affordability.** Some states have relaxed their interpretations of existing statutes to allow for rate relief in disadvantaged communities under certain circumstances. Flexibility to deviate from the strict application of district specific pricing

 

or single-tariff pricing should be an option when reasonably necessary, based on all relevant factors. Tracking expenses on a district specific level even in the context of single-tariff pricing or rate consolidation may help to ensure that companies are held accountable and incur only those costs that are reasonable. Flexibility is also necessary to create effective payment plans that take into account the different circumstances of payment- troubled customers.

3. **State regulators should ensure that the allowed return on equity is as low as it can reasonably be set and adopt rate designs favorable to low-income customers.**

4. **Rather than a subsidy, low-income rates should be considered a "discount" in cases where low-income rates recover marginal costs and make a contribution to fixed costs, similar to "discount rates" that are offered to industrial customers.**

5. **Payment plans should be implemented with the goal of maximizing the opportunities for payment-troubled customers to meet their payment obligations.** Advocates can consider seeking a requirement from the commission that when a utility offers a customer a payment plan, it should be reasonable based upon each payment-troubled customer's financial and special circumstances. A reasonable plan should maximize the customer's opportunity and ability to pay as well as the ability to maintain essential services to the household. Utilities could be required to offer payment troubled customers at least one second payment agreement. Allowing customers to select a payment due date that will best enable customers to meet their payment obligations should be considered by policymakers.

6. **Discount programs and assistance programs should be paired with conservation training and leak repair programs.**

7. **Require uniform data reporting across utilities within each state** to shed light on the true cost of water and wastewater service, bring to light management and financial problems, and help identify best practices for wider implementation.

8. **Use benchmarking to increase incentives for utilities to actively manage their customer bills, rates, and affordability programs.** Regulators could set or approve realistic aspirations for utilities to achieve on a given affordability related measurement, such as number of customer terminations due to nonpayment. Benchmarks should be paired with meaningful utility obligations to help achieve affordability in the event that benchmarks are not met.

9. **Adopt a federal Low-Income Water Assistance Program**, possibly implemented as grants to states to provide targeted assistance and funded by Congressional appropriation.

# I. INTRODUCTION

Across the nation, water and wastewater bills are skyrocketing. From 1990 to 2006, water and wastewater bills increased by 105.7 percent—a 4.6 percent average annual increase. Over that same time period, median household income increased by 61 percent, or an average of 3.0 percent per year.[1] In fact, the Water Research Foundation and U.S. Environmental Protection Agency (EPA) noted that "[T]here is no question that water and wastewater costs are taking an increasing share of household's budgets. Costs are increasing faster than general inflation and faster than the rate of change in typical incomes."[2]

Summer and fall drought conditions nationwide additionally underscore the importance of a comprehensive water policy that includes customer affordability programs.[3] Conservation measures, while necessary, may mean that consumers directly experience cost increases through revisions to rate structures, such as changing flat rates to inclining tiered rates.[4] For example, in Texas, drought conditions combined with population growth and increased water demand may mean building additional reservoirs or obtaining additional water supply from higher cost sources, such as desalination.[5] These costs will be recovered in part through increases to local rates.[6]

Additionally, aging water infrastructure, much of which is at or near the end of its useful life, is a major challenge. Experts estimate exorbitant replacement costs. In 2009, the American Society of Civil Engineers (ASCE) issued a D- (the lowest grade) to "Drinking Water" and "Wastewater" when it rated 15 categories from "Aviation" to "Wastewater." ASCE's evaluation focused on the criteria of capacity, condition, current funding, and future costs with funding

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[1] Water Research Foundation and U.S. Environmental Protection Agency, Best Practices in Customer Payment Assistance Programs (2010) (Water Research Foundation/EPA) at 29-31. However, these impacts on households are understated in that they include cost of service to households who do not directly pay for water or wastewater bills. Id.

[2] Water Research Foundation/EPA at 32.

[3] In June 2012, the National Climatic Data Center reported that 47 percent of the country was in a state of moderate to exceptional drought, while 71 percent of the country was abnormally dry or in the exceptional drought category. Delaware had the driest January-June period on record. With a third of the country "very dry," June 2012 ranked as the third driest month in a 118 year old record. National Oceanic and Atmospheric Association National Climatic Data Center, State of the Climate: Drought (June 2012), available at: http://www.ncdc.noaa.gov/sotc/drought/#national-overview.

[4] See Kate Galbraith, "In Era of Drought, Texas Cities Boost Water Rates" (*The Texas Tribune*, Jun. 12, 2012), available at: http://www.texastribune.org/texas-environmental-news/water-supply/drought-and-rate-hikes-show-texans-value-water/.

[5] See id.

[6] Low-interest loans from the Texas Water Development Board, along with local rates, are financing a 145 to 225 million dollar desalination plant in San Antonio. See Kate Galbraith, "Texas' Water Woes Spark Interest in Desalination" (T*he Texas Tribune*, Jun. 10, 2012), available at: http://www.texastribune.org/texas-environmental-news/water-supply/texas-water-woes-spark-interest-desalination/.

prospects, operation and maintenance, public safety, and resilience.[7] In 2013, "Drinking Water" and "Wastewater" grades slightly improved to a D.[8] ASCE noted the problems of more than 240,000 water main breaks per year and sewer overflows could be addressed with pipe replacement, repair, and expansion.[9] The EPA and Congressional Budget Office (CBO) have separately issued findings that the gap between necessary investment and available funding for water/wastewater is in the tens of billions of dollars or more over the next 20 years. While EPA's study addresses a gap that can be attributed mostly to municipal owned systems (generally not regulated by state commissions), these commissions do regulate some municipal systems when they serve customers outside municipal borders.

Possible future cost drivers include both novel and traditional items. On the side of novelty, regulators may face costs of water treatment related to hydraulic fracturing ("fracking"). Although wastewater resulting from fracking may not always be reintroduced into the environment and consumed, in Wyoming, for example, the EPA found that chemicals in drinking water were likely associated with fracturing that took place in close proximity to the drinking water wells in the area.[10] More typical cost drivers for water utilities can include high costs of obtaining water supplies, production and treatment costs, small customer base over which to spread costs, geography, age of the system, and level of investment needed. Compliance with the federal Safe Drinking Water Act will also continue to be a cost driver.

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[7] ASCE, 2009 Report Card for America's Infrastructure, available at http://www.infrastructurereportcard.org/2009/sites/default/files/RC2009_exsummary.pdf.

[8] ASCE, 2013 Report Card for America's Infrastructure (ASCE 2013 Report Card), available at http://www.infrastructurereportcard.org/a/#p/grade-sheet/gpa. The 2013 report card grading methodology similarly included the same seven criteria form capacity to resilience as the previous 2009 report card, but additionally includes innovation as an eighth criteria. See id. at http://www.infrastructurereportcard.org/2009/sites/default/files/RC2009_exsummary.pdf.

[9] ASCE, 2013 Report Card (Executive Summary) at http://www.infrastructurereportcard.org/a/#p/overview/executive-summary.

[10] Deborah Solomon and Russell Gold, "EPA Ties Fracking, Pollution," *Wall Street Journal* (Dec. 9, 2011) (discussing water quality problems of Pavillion, Wyoming), available at http://online.wsj.com/article/SB10001424052970203501304577086472373346232.html; Amy Mall's Blog, National Resources Defense Council Switchboard, New Report: Expert Confirms EPA Finding that Fracking Linked to Wyoming Ground Water Contamination (May 1, 2012), available at http://switchboard.nrdc.org/blogs/amall/pavillion_independent_experts.html. See also Press Release, U.S. EPA, Wyoming to Lead Further Investigation of Water Quality Concerns Outside of Pavillion with Support of EPA (June 20, 2013). Drilling companies' hazardous spills have impacted water supplies in Colorado and gas operations in New Mexico have caused 800 cases of water contamination. See OMB Watch, The Right to Know, The Responsibility to Protect: State Actions Are Inadequate to Ensure Effective Disclosure of the Chemicals Used in Natural Gas Fracking (July 2012) at 15 (citing Thyne, Geoffrey, Review of Phase II Hydrogeologic Study, Prepared for Garfield County," SBS LLC, Dec. 20, 2008, available at http://s3.amazonaws.com/propublica/assets/methane/thyne_review.pdf.

In a 2004 survey by the American Water Works Association of its members, 22 percent of all respondents rated nonpayment of water bills as a big problem.[11] Twenty-nine percent of all respondents rated it as a growing problem.[12] Among larger utilities responding (i.e., those serving over 100,000 people) the concern over bill nonpayment was even more pronounced: approximately 33 percent considered nonpayment a big problem and 40 percent considered nonpayment a growing problem.[13] The Water Research Foundation and EPA summarize the concern:

> Simply, low income households that are already having difficulty paying for all of these necessities will find it increasingly more difficult to pay their water and wastewater bills. The same will be true for many higher-income households that, due to competing needs (such as higher energy and food costs, increasing needs for health care, among others) are not able to afford all of their necessities. Those difficulties can have a direct impact on public health in the community.
>
> *This means that customer payment assistance efforts need to be not only a current priority for utilities but also an area of growing importance.*[14]

The price of water is already unaffordable for large portions of many communities and is anticipated to rise even more, particularly for customers of municipal utilities, with anticipated repairs and replacements of aging systems. Because a water utility's revenue generally is comprised only of customer (i.e., ratepayer) revenue, the largest burden of funding these anticipated cost increases will likely fall on customers, including low-income customers. While water bills are historically lower than energy bills, in some areas, water rates are rising faster than any other utility rate, including heating bills. Yet, while states require that electric and gas companies provide discounts to their low-income customers and telephone discounts are also available to poor consumers nationwide, most states lack any requirement that water/wastewater utilities provide a discount program to low-income customers.

This report examines existing affordability programs, best practices, and ideas from multiple jurisdictions as well as other utility sectors that increase affordability and protect low-income water and wastewater customers from losing their utility service. Throughout the report, attorneys and consumer advocates from different states offer their experience as well as describe and identify ratemaking and rate design mechanisms that address affordability. They also discuss direct customer assistance programs. The authors have highlighted affordability

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[11] 338 complete responses were received from government-owned utilities (82%), private (4%), utilities that were both publicly and privately owned (1%) or other ownership such as member owned, nonprofit, and special districts (11%). See Water Research Foundation and U.S. Environmental Protection Agency, Best Practices in Customer Payment Assistance Programs (2010) at 13.

[12] Water Research Foundation and U.S. Environmental Protection Agency, Best Practices in Customer Payment Assistance Programs (2010) (Water Research Foundation/EPA) at 13.

[13] Id.

[14] Water Research Foundation/EPA at 32 (emphasis added).

mechanisms that may help advocates and policymakers implement practices to increase affordability of water and wastewater service to consumers.

## II. STATUTORY BASIS FOR WATER AND WASTEWATER AFFORDABILITY

A basic tenet of public utility regulation is that authorized rates need to be reasonable. However, the ratepayer protections afforded by requiring reasonable rates are distinct and frequently inadequate to ensure the establishment of truly affordable rates for all customers. More troubling, statutes that were enacted to create "reasonable" rates are often so narrowly interpreted that they serve to prevent the very regulatory mechanisms which might be the most effective in achieving affordability.

When considering options to provide needed relief to low-income customers, numerous water utilities and public agencies struggle with interpreting laws that forbid unduly discriminatory utility rates. Throughout the United States, regulatory bodies and water agencies have repeatedly viewed any program that might subsidize one ratepayer class at the expense of another as potentially violating the anti-discriminatory rate provisions found in their respective state statutes. And while some jurisdictions have more broadly interpreted anti-discriminatory statutes, which facilitates the development of ratepayer assistance programs, the fact remains that absent specific legislative authorization, some affordability programs might be precariously positioned to pass judicial scrutiny.

In 1993, the legislature of California enacted Section 739.8 of the California Public Utilities Code, which declared that "access to an adequate supply of healthful water is a basic necessity of human life, and shall be made available to all residents of California at an affordable cost." While helping to clear the way for all of California's water utilities to enact affordability programs, the code section required specific consideration for water utilities under the commission's jurisdiction to "implement programs to provide rate relief for low-income ratepayers." Approximately ten years after this California code section became effective, the National Association of Regulatory Utility Commissioners (NARUC) adopted a resolution sponsored by the association's water and consumer affairs committees to "work closely to develop effective programs to assist low-income water utility ratepayers."[15] In January 2014, legislation was introduced in California that would require the California Public Utilities Commission to extend the Low-Income Rate Assistance Program statewide and increase the level of assistance provided to eligible ratepayers.[16]

[15] See National Association of Regulatory Utility Commissioners, Joint Resolution Supporting a LIHEAP-Equivalent to Assist Low-Income Drinking Water Utility Ratepayers (Mar. 10, 2004), available at http://www.naruc.org/Resolutions/liheap04.pdf.

[16] See "Yamada introduces water rate assistance legislation," *Sonoma Valley Sun* (Jan. 6, 2014).

With a widening income gap in most parts of the United States, the need for greater flexibility to implement water affordability programs becomes more significant. Some states have relaxed their interpretations of existing statutes to allow for rate relief in disadvantaged communities under certain circumstances. Yet, the continued creation and success of necessary water affordability programs can be best achieved when agencies possess the explicit guidance through legislation or other statutory authority that any reasonable affordability program that might be adopted will not place their agency in an ironic and bureaucratic conflict with previous statutes on "reasonable" rates.[17]

## III. MEASURING AFFORDABILITY

What is affordability and how is it measured? The EPA, for example, considers "what is affordable to the typical, or 'middle of the road' household."[18] For purposes of this paper, the context is affordability of water and wastewater service to the residential end-user customer. What is considered affordable to the median household or average customer, however, may drastically differ from what is affordable to a low-income household. Affordability drivers include not only household income, but also size of approved rate increase, and rate of customer growth in the system. An affordability analysis should also focus on customer ability to pay,[19] keeping in mind that ability to pay is distinct from willingness to pay.[20]

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[17]CA Public Utilities Code 728 states that "Whenever the commission, after a hearing, finds that the rates or classifications, demanded, observed, charged, or collected by any public utility for or in connection with any service, product, or commodity, or the rules, practices, or contracts affecting such rates or classifications are insufficient, unlawful, unjust, unreasonable, *discriminatory, or preferential*, the commission shall determine and fix, by order, the just, reasonable, or sufficient rates, classifications, rules, practices, or contracts to be thereafter observed and in force." Cal. Pub. Util. Code § 728 (emphasis added). See also Cal. Pub. Util. Code § 739.8 (Access to "affordable water" is mandated and Commission has authority to implement low-income assistance programs).
Other state provisions for low-income water utility customer assistance include: NM Stat. Ann §§ 27-6A-1 to 27-6A-5 (Low Income Water, Sewer and Solid Waste Service Assistance Act); Tx Special Dist. Local Laws Code Delay of Collection of Tap-in Charges, Connection, or Hookup Fees for Low-Income Persons); WA Revised Code § 57.08.014 (Authority to Adjust or Delay Rates or Charges for Low-Income Persons); WV 24-2A-5 (Special Rates for Certain Water Utility Customers). While Massachusetts also has a statute, MA Gen. Law Ch. 23B §24B (Low-Income Sewer and Water Assistance Program, or LISAWAP), this program is no longer in operation.

[18] Scott J. Rubin, Affordability of Water Service, Rural Water Partnership Fund (May 24, 2001) (Rubin) at 9.

[19] To clarify, this paper discusses numerous existing affordability programs which themselves may use varying measures of affordability. In order to provide analysis, critique and comparison of different affordability programs, they are analyzed by using more consistent metrics, as described in this section. Affordability, as defined by "ability to pay" with one's income or financial resources, has been used by the Environmental Protection Agency to define affordability of water quality standards for individuals or households. National Drinking Water Advisory Council, Recommendations of the National Drinking Water Advisory Council to U.S. EPA on Its National Small Systems Affordability Criteria (July 2003) at 9.

### A. Income and Household Size

One approach to determine whether water is affordable references the proportion of household or area median income that is spent on a water bill.[21] For example, although different entities choose different threshholds,[22] two percent of household income or a community's median income is often used as an affordability reference for drinking water, and a four percent threshold used as an affordability reference for drinking and wastewater combined.[23] These thresholds determine the point at which assistance programs may become available to consumers.[24] A two percent threshold representing a household's "water burden," could serve as the yardstick by which affordability is determined for payment-troubled customers with arrearages.[25] For example, the closer that total charges on a payment-troubled customer's water bill come to representing no more than two percent of household income, the more affordable the water bill. While these thresholds may be somewhat subjective, they are considered reasonable and widely accepted.[26]

However, a recent report has cast some doubt upon the reliability of using median income, without more, as a reference against which to measure affordability.[27] Researchers from the

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[20] Rubin at 4.

[21] Margot Saunders, Water Affordability Programs (AWWA Research Foundation and American Water Works Association 1998) (Saunders) at 51.

[22] For example, the EPA's use of a median household income threshold for determining affordability, in order to limit variances from its goal of implementing the Safe Drinking Water Act, is a view of affordability through the lens of what can be implemented by the utility at water system level. This goal overlaps with, but is also distinct from the goal of ensuring that the end user consumers have reliable and safe access to water and wastewater services that are reasonably priced.
In the context of compliance with the Arsenic in Drinking Water Rule, EPA established a national affordability criterion that sets 2.5% of median household income as a threshold for affordability. See United States Environmental Protection Agency Office of Water, Report to Congress: Small Systems Arsenic Implementation Issues (Mar. 2002) at 4 (describing 2.5% threshold), available at http://water.epa.gov/drink/info/arsenic/upload/2005_11_10_arsenic_congr_ars_mar_02.pdf. However, EPA's measurement fails to capture the relative affordability to low-income households.

[23] Saunders, at 51 (using 2% of a geographic area's median income as the benchmark against which to measure affordability, based on what percentage of household income us required to pay a water bill).

[24] Id.

[25] Id.

[26] Breisach, Raymond et al., Results and Recommendations of Water and Wastewater Affordability Study (2004) at 1, Report prepared for the City of Kalamazoo Department of Public Services, available at http://research.upjohn.org/reports/180/ (noting the subjectivity of the 2% and 4% thresholds, but considering them reasonable given "their widespread acceptance in the industry and consistency with recommendations made by the Environmental Protection Agency's (EPA) Environmental Economics Advisory Committee, trade associations, and policy analysts."); See Pacific Institute, Assessing Water Affordability: A Pilot Study in Two Regions of California (Aug. 2013) at 8.

[27] See Pacific Institute, Assessing Water Affordability: A Pilot Study in Two Regions of California (Aug. 2013) at 2, available at http://www.pacinst.org/wp-content/uploads/2013/08/assessing-water-affordability.pdf.

Pacific Institute investigated water bill affordability for California customers in both urban and rural settings. In Sacramento, researchers found that measuring affordability based upon whether customer water bills were at or above two percent of median income resulted in a finding that no water systems had unaffordable rates.[28] In contrast, measuring affordability based on household income revealed over 100,000 households with unaffordable water bills.[29] The study found similar results for rural water customers in Tulare. Using median income at a water system level to measure affordability, the study found just 9 out of 51 systems in Tulare exceeded the affordability threshold.[30] Measuring affordability based on household income revealed that almost one-third or almost 4,000 households exceeded the affordability threshold.[31] When water is affordable at the water system level, it can be unaffordable at the household level.[32]

To examine affordability from the perspective of the customer, affordability measures using household income can present a more accurate and comprehensive picture than using median income alone. Using the traditional measure of examining water affordability -- what percentage of median household income the water bill constitutes — can fail to account for impacts on vulnerable members of society who earn less than the median income.[33]

However, there are limitations to strictly using a threshold of household income to assess affordability.[34] Household size and income should be periodically reviewed when measuring affordability. Household income and household income and expenses can change as the number of household members expand or contract. For example, in a household headed by two working adults, finances may be spread thinner when new responsibilities of elder and infant care mean additional members are added to the household. At the same time, the larger household is associated with increases in water and wastewater consumption and use, which are reflected in higher water and wastewater bills. As an alternative or complement to programs using a percentage of household income as an affordability metric, consumer advocates and policymakers can investigate assistance programs that support the costs of customers' basic water needs on a per capita basis.[35]

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[28] Id. at 10.

[29] *I.e.*, households for which water bills comprise 2% or more of household income. Id.

[30] Id. at 13.

[31] I.e., households spending 2% or more of household income on the water bill. Id. at 13. If replacement costs of water (replacements are substitutes to water service such as bottled water, vended water, or water filters) are factored in, the affordability threshold would be exceeded for over half of rural Tulare households. Id at 13, 15.

[32] Id. at 15.

[33] Id. at 15.

[34] See Saunders at 61.

[35] Basic water needs could be defined by policymakers, but as an example, might include costs of indoor water use and exclude the costs of filling a swimming pool.

### B. Effect on Level of Arrearages

The level of arrearages, or past due bills, would seem to be a clear indicator of whether water bills are affordable. One study found that 97 percent of all consumers pay all bills on time, every month, in a good economy.[36] Assistance programs that provide some level of arrearage forgiveness may help increase affordability by lowering arrearages. Doing so lowers the amount of the customer's household income that is necessary to maintain water service.[37]

### C. Effect on Rate of Disconnections

The rate at which service is disconnected is directly related to whether water service is affordable. The American Water Works Association has stated that, along with rising arrearages and higher collection costs, more frequent terminations of service for nonpayment indicate the need to consider affordability alternatives.[38] In a related example, the Division of Ratepayer Advocates, an independent organization within the California Public Utilities Commission, noted that energy service disconnections and reconnections are indicators of customers' ability to manage energy costs, pay bills, and maintain service.[39] The same could be said for water utility service.

Along with disconnections, it could be helpful to review the rate of reconnections. For example, if a utility reconnects 100 percent of its customers shortly after disconnection, it is likely that the utility is overly aggressive in collections and is using disconnection as a collection tool. It could be informative to review the rate of reconnections within different time periods, such as

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[36] Based on the finding of a 1977 Senate report. See Robert Hobbs, Debt Collection Defense Intensive at National Consumer Law Center Conference (Boston, Nov. 14, 2010); Fair Debt Collection (NCLC 2008), App. A.3 (Senate Report 95-382 (Aug. 2, 1977)). Reasons why the remaining 3% of consumers may fail to pay include unemployment, illness or death, family break-up, overextension, and disputed debt. The report also found that 0.1% of consumers are able to pay, but will not pay. While these exact percentages may have shifted over time, one would expect the overall relationship to remain the same in the face of such uneven numbers, *i.e.,* that the vast majority of consumers pay bills on time when they have the financial ability to do so. Indeed, this is consistent with more recent findings reported by the Water Research Foundation, which cited to studies from 2004, 2005 and 2007. "Surveys of disconnected customers indicate that most people want to pay their utility bills on time if it is at all possible for them to do so." Best Practices in Customer Assistance Programs, Water Research Foundation at 35 (citing 2004, 2005 and 2007 studies). Factors contributing to disconnections for nonpayment are unusually high monthly bills just prior to disconnection, loss of work, illness/injury, and breakdown of family relationship. Id. at 34.

[37] As noted above, level of income needed to cover water expense is also a measure of affordability.

[38] Melissa J. Stanford, Memorandum to NARUC Committees on Water and Consumer Affairs at 9 (citing AWWA, Manual of Water Supply Practices-M1, Fifth Edition, Principles of Water Rates, Fees and Charges, 2000).

[39] See Dana S. Appling, Status of Energy Utility Service Disconnections in California, Division of Ratepayer Advocates – California Public Utilities Commission (Nov. 2009) at 1.

30 days, 60 days, 90 days, and over 90 days. Reconnections made only after longer periods of time could indicate greater affordability concerns where consumers do not have the resources on hand to more quickly re-establish service. Failure to reconnect at all can also indicate that water or wastewater service and/or the reconnection charge is unaffordable.

### D. Qualitative Measurements

Affordability may also be defined more qualitatively. For example, whether a water or sewer bill is affordable can be measured by whether the customer or household can pay the bill without compromising the ability to also purchase other essentials, such as food and healthcare related costs.[40] Two studies found that when consumers' expenses exceed their income, they will forgo spending on food, transportation, clothing, and medical care in order to pay rent and utility bills.[41] To the extent that an "affordability" definition includes the maintenance of life-sustaining utility services, such as water, it should also acknowledge that consumers must have the concurrent ability to maintain other basic necessities. A more qualitative definition of affordability could be defined as "a customer or household's ability to pay rates that are low enough to ensure access to safe, clean, water and wastewater services adequate for household purposes, and that basic necessities, such as food, shelter, medical, clothing, utility service, and education, do not have to be foregone or disrupted."

### E. Accessibility of Assistance Programs

Another measure of affordability of service is the accessibility and availability of low-income and other assistance programs.[42] While such programs are prevalent throughout the states for energy and telephone service assistance, thanks in large part to the existence of federal support

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[40] For example, in a bill called the Clean Water Affordability Act, "[t]he term 'affordability' means, with respect to payment of a utility bill, a measure of whether an individual customer or household can pay the bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household, as determined by the Administrator" 112th Congress, S.2094, Clean Water Affordability Act of 2012 (referred to the Committee on Environment and Public Works on Feb. 9, 2012). The bill has not been enacted, but the definition it used is still instructive.
The California Public Utilities Commission Division of Water Audits has similarly proposed a definition of affordability along these lines: "Rates low enough so that basic food, shelter, medical, clothing [and education] needs do not have to be foregone". See California Public Utilities Commission Docket R.11-11-008, Comments of The National Consumer Law Center and The Utility Reform Network on Proposed Definitions of Terms, Phrases, and Concepts for Use in This Proceeding (citing to the Commission's Water Division's definition of affordability as adapted from *Raucher, Bob on "Affordability of Water Service" presentation at NAWC Annual Conference, 2004*).

[41] Breisach, Raymond et al., Results and Recommendations of Water and Wastewater Affordability Study (2004) at 16, Report prepared for the City of Kalamazoo Department of Public Services, available at http://research.upjohn.org/reports/180/.

[42] See Jeffrey D. Goltz, What's Keeping Me Up at Night: The Impact of Increasing Utility Rates on Low- and Fixed-Income Customers, NRRI Monthly Essay (Jan. 2012). The author, Mr. Goltz, is Chairman of the Washington Utilities and Transportation Commission.

Programs, such as the Low Income Home Energy Assistance Program (LIHEAP), for home heating and cooling assistance and Lifeline for telecommunications assistance, no such national direct financial assistance exists for water or wastewater customers. Some states, however, have given their commissions or utilities legislative authority to set discounted rates for seniors and low-income consumers through ratepayer funded programs.[43] Individual water utility companies also sometimes offer assistance programs.[44]

# IV. CURRENT PROGRAMS AND PRACTICES

## A. Types of Water and Wastewater Affordability Programs

Water and wastewater affordability programs develop through various regulatory mechanisms. In some states, such programs were authorized by commission regulation, state statute, or municipal ordinance. In others, the programs evolved through settlements of administrative cases or due to a corporate decision to offer the programs. Existing water and wastewater affordability programs can be composed of one or more of these elements.[45]

### 1. Bill Discount Programs

#### a. Total Bill Discounts

This type of program requires a flat amount or percentage discount on the total bill, depending upon the household income, or other income related criteria, of the low-income customer.[46] One rule of thumb has emerged which calls for an affordability threshold of two percent of median household income for water and four percent for water and wastewater combined.[47] For

[43] See id; West's RCWA 80.28.068 (The Washington Commission "may approve rates, charges, services, and/or physical facilities at a discount for low-income senior customers and low-income customers. Expenses and lost revenues as a result of these discounts shall be included in the company's cost of service and recovered in rates to other customers."); N.M. Stat. 27-6A-4 ("A utility may provide assistance in the form of reduced or subsidized rates to or on behalf of those individuals who meet the eligibility criteria of one or more need-based assistance programs administered by the department and who are not living in nursing homes or intermediate care facilities or not living in circumstances that do not require them to pay, directly or indirectly, for water, sewer or solid waste service."). *See also* Cal. Pub. Util. Code 739.8 ("commission shall consider and may implement programs to provide rate relief for low-income ratepayers").

[44] See infra, Section IV, Current Programs and Practices at 19-22.

[45] *Financing and Charges for Wastewater Systems*, Water Environment Federation, Manual of Practice No. 27 (2005) at 226-227.

[46] Water Research Foundation/EPA at 49 (2010); W.Va. Code § 24-2A-5 (eligibility for rate discount depends on whether customer participates in Supplemental Social Security; Temporary Assistance for Needy Families (TANF); TANF-Unemployed Parent Program; or for customers who are at least 60 years of age, the Supplemental Nutrition Assistance Program).

[47] Water Research Foundation/EPA at 49 (2010) (acknowledging the widespread acceptance of the 2% and 4% income thresholds for affordability but criticizing them); Breisach, Raymond et al., Results and

example, the Seattle Human Services Department offers such assistance for eligible customers of the city's electric, water, sewer, and garbage services. Seattle provides a 50 percent discount off water bills for income eligible customers. The program is open to low-income customers, senior citizens, and adults with disabilities who have incomes at or below 70 percent of the state median income level. Seattle has established two separate enrollment processes for: (1) senior citizens and persons with disabilities and (2) all other low-income customers. Low-income customers who live in federally funded public housing and Section 8 housing are not eligible for the program.[48]

In contrast, Section 739.8 of the California Public Utility Code requires the water utilities to consider implementing Low-Income Rate Assistance Programs.[49] Pursuant to this statute, all Class A, and some B and C water companies,[50] provide such Low-Income Rate Assistance Programs. Class A utilities may also provide a discount to military families. The statute allows the Commission to "take into account variations on water needs caused by geography, climate, and the ability of communities to support these programs."[51]

Pursuant to their general base rate case orders, each of the utilities is authorized to offer a specific assistance program unique to its service territory. The California Public Utility Commission also requires Class A and B water utilities with service territories that overlap those of regulated energy utilities to share their low-income customer information and to automatically enroll those customers who are eligible for another utility's low-income programs.[52] Not all California utilities offer a percentage discount on the total bill; for example,

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Recommendations of Water and Wastewater Affordability Study (2004) at 1, Report prepared for the City of Kalamazoo Department of Public Services, available at http://research.upjohn.org/reports/180/ (noting the subjectivity of the 2% and 4% thresholds, but considering them reasonable given "their widespread acceptance in the industry and consistency with recommendations made by the Environmental Protection Agency's (EPA) Environmental Economics Advisory Committee, trade associations, and policy analysts.")

[48] National Consumer Law Center, *Access to Utility Service Fifth Edition* (Boston 2011) (Access) at 353, *citing* www.seattle.gov/light/accounts/assistance. Seattle has established a separate enrollment process for senior citizens and persons with disabilities. Seniors and persons with disabilities must enroll through the Mayor's Office for Senior Citizens, and low-income customers who are not in either of those categories must enroll through the Seattle Human Services Department.

[49] Access at 353-354; Cal. Pub. Util. Code § 739.8; *Assessment of Water Utility Low-income Assistance Programs*, California Public Utilities Commission Division of Water and Audits (October 2007) at 38; see also, http://www.cpuc.ca.gov/PUC/Water/wateralternativerates.htm.

[50] Class A, B, and C are California Public Utilities Commission's designation of the size of the utilities for the purposes of assessing fees. As the Access manual notes, Class A, and some Class B and C utilities, offer low-income assistance programs. Access at 354, *citing* Seaneen Wilson, California Pub. Util. Comm'n Div. of Water & Audits, Assessment of Water Utility Low-Income Programs (Oct. 2007), ftp://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf.

[51] Cal. Pub. Util. Code § 739.8(d).

[52] Access at 354, *citing*, Decision 11-05-020, Adopting Guidelines for Sharing of Low-Income Customer Information (California Public Utility Commission May 5, 2011).

the companies known as Park and Apple Valley Ranchos offer a flat discount on the total bill, $5.50 and $5.83, respectively.

California American offers its H2O (Help to Others) Program. Whether the utility offers a total bill discount depends on the particular region of the service territory. It is available whether the water customer has metered rates or flat rates; however, wastewater customers are not eligible for this assistance. California American offers a $5 discount on total bill for the Sacramento area and an $8.50 discount on the total bill for the Larkfield area.[53]

### b. Partial Bill Discounts

A discount on or complete waiver of just the customer or meter charge to income-eligible customers -- or a discount on just the consumption charge is the basis for this program. In areas where scarcity of water is an issue, discounts on the fixed customer charge are preferred since reducing the fixed charge does not affect customers' conservation efforts.[54]

One example of a partial bill discount is the District of Columbia Water and Sewer Authority (DCWSA) program discount on the fixed charge. Beginning in 2009, DCWSA began to offer free service for the first 400 cubic feet per month of water and sewer services on the customer's bill.[55] According to the DCWSA, customers can save approximately $28.80 per month with this discount.[56] Approximately one-quarter of the customers use less than 400 cubic feet per month and therefore pay no water or sewer consumption or usage charges, but those customers do pay other minimum fees, including "metering and payment in lieu of taxes."[57]

Some of the California public utilities also offer partial bill discounts. Section 739.8 of the California Public Utility Code requires the water utilities to consider implementing Low-Income Rate Assistance Programs and does not specify the type of discount to be offered, i.e., whether the discount provided should be a partial bill or total bill discount.[58] Only some California utilities offer partial bill discounts; for example, Golden State and San Jose each offer a 15 percent discount on the service charge. Similarly, California Water Service, San Gabriel Valley,

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[53] See Seaneen Wilson, California Pub. Util. Comm'n Div. of Water & Audits, Assessment of Water Utility Low-Income Programs (Oct. 2007) at 9, ftp://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf.

[54] Water Research Foundation/EPA at 51-52.

[55] http://www.dcwater.com/customercare/special_programs.cfm.

[56] Id.

[57] Access at 353, citing District of Columbia Water & Sewer Authority, Retail Rates and Low Income Residents: Discount Program and Impacts (2009); see also, http://www.dcwater.com/customercare/special_programs.cfm.

[58] See Seaneen Wilson, California Pub. Util. Comm'n Div. of Water & Audits, Assessment of Water Utility Low-Income Programs (Oct. 2007) at 9, ftp://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf.

Valencia, and Great Oaks offer a 50 percent discount just on the applicable monthly or bi-monthly service charge.[59]

### 2. Rate Structure & Billing Alternatives

#### a. Lifeline Rates

Lifeline rates provide for lower rates for initial consumption blocks for low-income customers compared to the rates of other residential customers. The initial lifeline block may be priced lower than the marginal cost of service to provide low-income customers the public health benefit of a minimum quantity of water representing non-discretionary water use, or water that is needed for daily living. After the initial lifeline block is used, the price per 1000 gallons increases to recover the company's full cost of service for what represents discretionary water use.[60] The major difference between these rates and inclining block or conservation rates is that the "lifeline block may be priced below the marginal cost of service in recognition of the public health need to ensure that a minimum quantity of water is available to all customers."[61] Low-income rates for customers in Los Angeles, California and Oregon City, Oregon appear likely to be lifeline rates. In accordance with municipal code, the City of Los Angeles provides a 31 percent reduction in the sewer service charge to low-income customers for the first 18 hundred cubic feet (hcf) of a two-month bill or for the first 9 hcf of a one-month bill.[62] Additionally, Oregon City has a Low-Income rate for water and sewer customers.[63] The rate is in effect for eligible customers up to the point that the average winter consumption is reached, after which the normal residential rate applies.

#### b. Bill Frequency Modifications

When customers in any rate class receive smaller monthly water bills rather than larger quarterly bills, they often maintain adequate and timely bill payments.[64] This can be particularly true for some low-income customers, which is why some experts and regulatory commissions have cited this factor as a reason for approving the change to monthly rather than quarterly billing for water and wastewater utilities.

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[59] Id.

[60] See Water Research Foundation/EPA at 55; United States Environmental Protection Agency, Water: Sustainable Infrastructure Affordability Considerations, available at http://water.epa.gov/infrastructure/sustain/affordability.cfm.

[61] Water Research Foundation/EPA at 55 (2010).

[62] Los Angeles Municipal Code Ordinance No. 171. 571, Section 7h.

[63] See Oregon City Rates and Fees page for water, available at http://www.orcity.org/finance.

[64] Access at 355; Seaneen Wilson, California Pub. Util. Comm'n Div. of Water & Audits, Assessment of Water Utility Low-Income Programs at 38 (Oct. 2007), ftp://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf.

### c. Levelized Billing

Levelized or budget bills can assist customers by making it easier for them to budget for the same amount each month. The typical levelized bill reflects an average usage over a 12-month period, thus avoiding extremely high or low bills in a single month.[65]

## 3. Payment Plans and Waivers

### a. Payment Plans

Payment plans spread a number of periodic customer payments over an extended amount of time so that large balances and arrearages are more manageable to pay in smaller, frequent increments rather than in one fell swoop. Payment plans may be offered in utility-designed structures, or terms may be negotiated between utility and the individual customer. Generally, payment plans give the customers the opportunity to gain control over their financial situation over a longer period of time. There may be requirements for receiving a payment plan, however. For example, in California, water utility customers may qualify for a payment plan when shut-off of water service is imminent.[66] A payment plan also may be initiated when a customer files a billing complaint; requests an extension of payments within a specific time period; or the customer is elderly, disabled, or the physician certifies that it would be life-threatening to discontinue water service.[67] Many Class A water utilities also may provide payment plan assistance to military families.[68]

Specifically, California American's payment arrangements require the customer to:

1) pay at least 25 percent of the bill within 48 hours;
2) pay the rest of the bill, including any late charges, according to an agreed-upon schedule that may not exceed a 6-month period; and
3) pay all future bills as they come due. This payment program is only available to customers who have not broken similar agreements in the past 12 months.[69]

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[65] See Seaneen Wilson, California Pub. Util. Comm'n Div. of Water & Audits, Assessment of Water Utility Low-Income Programs at 39 (Oct. 2007), citing *Thinking Outside the Bill: A Utility Manager's Guide to Assisting Low-income Water Customers*, a study sponsored by the American Water Works Association (AWWA) Water Utility Council (November 2004) at 22-23.

[66] See, http://www.cpuc.ca.gov/PUC/Water/wateralternativerates.htm; see also, Seaneen Wilson, California Pub. Util. Comm'n Div. of Water & Audits, Assessment of Water Utility Low-Income Programs at 39 (Oct. 2007), ftp://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf.

[67] Id.

[68] Id.; see also, Seaneen Wilson, California Pub. Util. Comm'n Div. of Water & Audits, Assessment of Water Utility Low-Income Programs at 39-40 (Oct. 2007), ftp://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf.

[69] See, www.amwater.com/caaw/customer-service/low-income-program.html.

### b. Waivers or Reductions of Miscellaneous Charges

Utilities may waive or reduce consumption charges or miscellaneous charges, such as disconnection, reconnection, and late fees to alleviate the problem of unaffordable water or wastewater bills.[70] There are good policy reasons for waiving or reducing these miscellaneous charges. Water and wastewater are essential public health services necessary for life, and additional fees and miscellaneous charges can act as barriers to maintaining a low-income customer's existing service or restoring disconnected service. A low-income customer who is facing termination or was terminated is already having trouble paying the utility bill for services. The imposition of a late fee, reconnection fee, or disconnection fee will only serve to further impede the customer's ability to have service restored and worsen the problem.[71] Waiver of these charges can assist customers with getting back "on-line" sooner or prevent termination.

## 4. Promoting Affordability by "Shrinking the Bill"[72]

### a. Introduction

Another important way to assist low-income customers is to help to reduce the overall water and wastewater bills where wastewater is tied to water usage. Shrinking the overall bill can be achieved through assistance with conservation education, water-saving devices and financial assistance with leak repairs.

### b. Conservation Requirements

Water conservation programs may be targeted towards the low-income population in a particular service area or to small users. This could include education, distribution of water-saving devices and other conservation tools. Conservation can result in an overall decrease to water bills and will reduce the wastewater bill where it is tied to water usage.

### c. Leak Repairs

A leak repair program can assist both water and wastewater customers where wastewater bills are tied to water use. It decreases the overall bill and provides water affordability benefits, too. Grant programs towards repairs may be offered as part of, or alongside, leak repair programs.

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[70] Access at 354 See also Water Research Foundation/EPA at 51-52 (noting water utilities have waived consumption charges) & 99 (Washington Revised Code § 36.94.370 provides that waiver of tap-in charges, connection or hook-up fees, if allowed, should be by ordinance).

[71] Water Research Foundation/EPA at 65.

[72] Water Research Foundation/EPA at 41-57.

### 5. Connecting Customers to Community Resources and Public Assistance Programs

Connecting customers with other public assistance programs and available funds may help to improve bill payment. Ensuring that eligible customers take advantage of all available assistance, whether or not related to water, can help reduce the competition of other financial obligations with customer resources for paying water and/or wastewater bills.

#### a. Crisis Assistance

Voluntary hardship funds through either customer contributions or shareholder contributions or a combination of both can provide assistance to low-income or needy customers who are otherwise unable to pay. These hardship funds may be administered through the utility itself or by a community-based organization, for determination of the customer need. Crisis vouchers can be given at intervals, i.e., once every year or two years, to use as a credit towards the outstanding utility bill and to prevent termination. Such vouchers could be limited based upon income eligibility requirements or allowed only following extraordinary circumstances, such as job loss or major income change.

For example, Missouri American Water offers a version of the H2O Help to Others Program.[73] The Missouri American program is an emergency assistance program created by Missouri American and Missouri's Community Agencies. It provides additional funding to customers who have trouble paying their bills and is funded as a hardship fund from shareholders and voluntary customer contributions.

United Water Cares Neighbors Helping Neighbors program provides temporary assistance to those with a financial hardship, including job loss, illness, death or military service. This appears to be a program that is across many United Water Companies (at least Pennsylvania, New Jersey and Idaho). In New Jersey, it is administered by the New Jersey SHARES program.

#### b. Financial Counseling

Utilities may make arrangements with experts in the field and refer customers to these experts. The utility may benefit by reducing the bad debt expense, and the customer can benefit through learning to manage his or her budget and therefore be more able to afford bills.

#### c. Federal Public Assistance

The Earned Income Tax Credit (EITC) provides a refundable tax credit to low-income households with earned income. This means that the household receives a federal government cash amount whether or not the household owes taxes. Two other programs that help to

[73] See, www.amwater.com/moaw/customer-service/low-income-program.html.

provide more assistance to customers are the federal Supplemental Nutrition Assistance Program (SNAP, formerly the food stamp program) and the federal school lunch nutrition program. Additionally, the Low Income Home Energy Assistance Program (LIHEAP) provides crisis and/or bill payment assistance to help low-income customers maintain their heating and/or cooling. Although LIHEAP provides energy assistance rather than direct water assistance, receipt of LIHEAP funds could potentially expand the dollars available for the household budget.[74]

### 6. Combinations of Low-Income Program Elements for Water and Wastewater Assistance

Many of the water and wastewater programs combine many of the elements previously listed, which can help to optimize their effectiveness. In particular, they often combine a service discount type program with a conservation and leak repair assistance program. Examples of such programs follow.

#### a. Aqua America

Helping Hand is Aqua Pennsylvania's (AquaPA's) low-income assistance program. Aqua Pennsylvania combines a monthly credit, a conservation kit, and a hardship fund.

The eligibility requirements for a monthly credit are that:
(1) the household income is less than 200% of the Federal Poverty Level;
(2) the account is more than 30 days past due; and
(3) the customer has at least $100 in unpaid water bills.

For customers who qualify, AquaPA works with the referring agency to develop a good faith payment plan. Under the payment plan, the customer typically pays 10 percent of the customer's total account balance up to $110; a reconnection fee if the service has been terminated; and a fixed monthly payment based on an average bill, plus $25. Customers who make timely payments receive a credit to their account each time they make a timely monthly payment. The customers also receive a water conservation kit that includes information and parts for detecting and repairing leaks and conserving water. Low-flow shower heads and kitchen swivel aerators are included. Helping Hand also has a hardship fund through which other customers can make donations.[75]

#### b. American Water Companies

Many of the American Water Companies offer a low-income assistance program called H2O Help to Others Program.[76] The specific benefits of the program differ from state to state.

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[74] Water Research Foundation/EPA at 59-61 (2010).
[75] See, https://www.aquaamerica.com/our-states/pennsylvania.aspx .
[76] See, www.amwater.com/njaw/Customer-Service/low-income-program.html.

Benefits may include waiver or discount of the service charge, grant assistance, and water conservation education and assistance.[77]

New Jersey American Water's (NJAW) program is administered by New Jersey SHARES.[78] Eligible customers must have an annual income of at or below 200 percent of the Federal Poverty Level guidelines. The Company states that as of December 2010, the Company had 560 customers enrolled in the program.

NJAW offers a service charge discount of 100% percent, which essentially waives the monthly fixed service charge for water. The Company provides a grant of up to $500 to help pay the water bill. In some cases if the $500 grant does not cover the customer's entire water bill, the recipient must pay a portion of the bill based on their income. The Company states that, in 2010, it provided $170,000 in assistance grants to 609 households. In April 2011, the Company launched an additional water saving and education program which included (1) comprehensive water audits by phone, (2) free water saving retrofit kits, and (3) up to $300 for in-home leak repairs and the installation of water efficient devices.

Pennsylvania American Water Company (PAWC) also offers the H2O Help to Others program.[79] Its program is very similar to the NJAW. One difference, however, is that customers must have incomes at or below 150% percent of the Federal Poverty Level. Like NJAW, Pennsylvania American Water offers one-time hardship grants of up to $500 but PAWC's 65 percent discount on the monthly service fee is lower than the 100 percent discount offered by NJAW. PAWC's conservation devices and education materials include a low-flow showerhead, faucet aerators, plumbing tape, a toilet tummy and an educational booklet. The Company provided $327,000 in assistance grants in 2010.

In January 2011, PAWC added a wastewater assistance program in addition to the water assistance program.[80] The wastewater assistance program offers grants up to $500 per year and a 15 percent discount on the total wastewater charges.

### c. Philadelphia Water Department

The Philadelphia Water Department (PWD) offers a discount, several payment plans, a conservation program, assistance with leaks and repairs, and hardship funds. The discount is a Senior Citizen Discount of 25 percent for customers 65 years of age or older who live at the

[77] See, http://www.amwater.com/njaw/Customer-Service/low-income-program.html.
[78] New Jersey also offers a 2-1-1 call referral line to help low-income customers find available energy and water assistance programs.
[79] See, http://www.amwater.com/files/H2O%20-%20PA.pdf.
[80] http://www.amwater.com/files/H2O%20-%20PA.pdf; Pa. PUC v. Pennsylvania-American Water Company Northeast Wastewater Operations, 2010 Pa. PUC LEXIS 1990 (Order entered December 16, 2010).

address on the application, who have water and sewer bill in the customer's name, and who meet the annual income requirement.[81]

PWD offers a Water Revenue Assistance Program (WRAP), which includes a number of payment plans, to help customers who are delinquent in their bills and whose income level is at, or below, 250 percent of the Federal Poverty Level. WRAP provides a city grant of up to $200 annually or $17 month to help low-income customers enter into a payment agreement or to pay their bills in full. There are three different types of WRAP agreements. The first is known as the 10/5, where the customer must pay 10 percent of the delinquent balance as a down payment and 5 percent of the delinquent balance plus current charges monthly, with a period of up to 20 months to pay the balance in full. The second is the D/I (Disposable Income), where 10 percent of the delinquent balance is paid as a down payment and the rest of the delinquent balance and current charges are paid according to a schedule of payments based upon the amount of disposable income. A maximum of 36 months is permitted for full payment of the balance. The third is the Water Revenue Bureau Conference Committee Agreement (WRBCC)[82], which calls for payment towards the current cycle bills only, in some cases in an amount less than the actual cost of the service received.[83] To qualify for the WRBCC, the customer must petition a special committee for an extended payment plan based on the customer's ability to pay. Customers with incomes below 100 percent of the Federal Poverty Level are referred to the WRBCC committee for this purpose.[84] For homeowner-occupants, there is no arrearage forgiveness but the WRBCC suspends the arrearages and stops the accrual of penalties and interest.

The PWD's Water Conservation Assistance Program (CAP) is designed to help customers reduce water waste. Customers can reduce waste by repairing leaks and installing water conservation devices. Customers with an income at or below 150 percent of the Federal Poverty Level may receive assistance at the Neighborhood Energy Center with repairing these issues. A customer may receive a maximum cost of service per household of $275.00 for non-WRAP customers and $300.00 for WRAP customers. The following assistance is provided:

1) plumbing leak repair on supply lines
2) low-flow showerheads

[81] Customers of Philadelphia Gas Works (PGW) similarly were granted this discount for many years, but under the jurisdiction of the Pennsylvania Public Utility Commission, the PGW discount has been closed to new customers and has been "grandfathered" for those previously enrolled in the program. The Senior Citizen Discount provided discounts to 21,878 seniors in FY2011 at a cost of $2,623,696. See, http://www.pgworks.com/index.aspx?NID=118.

[82] The WRBCC operates as the collections arm of the Philadelphia municipal government and is part of the Revenue Department. Access at 353.

[83] See, Philadelphia Water Department Regulations, Payment Arrangements, §100.9.

[84] NCLC at 353.

3) faucet aerators, and
4) toilet dams or other comparable device and education.[85]

PWD also offers the Homeowners Emergency Loan Program (HELP), which is an emergency residential customer, loan program for water service line or sewer lateral repairs and replacements of which are the responsibility of the homeowner.[86]

Customers can also receive hardship funds from the Utility Emergency Services Fund (UESF). The grant program provides assistance to prevent shut-off or to restore water service for customers at or below 175 percent of the Federal Poverty Level. Grants up to $500 may be provided every other year.[87] The grants include $250 UESF grant and a matching Water Department credit.

#### d. Los Angeles Department of Water and Power

The Los Angeles Department of Water and Power (LADWP) offers a low-income subsidy consisting of a maximum 15 percent discount on electricity, water, and sewer services.[88] LADWP offers payment extensions. If the customer pays 50 percent of the balance, that customer will receive a two-week payment extension on the remainder. LADWP will also make a partial installment payment arrangement for those having difficulty paying their bills and it offers a Low Income Discount Program to customers with qualifying income levels for electricity, water, and sewer services. The City also offers a Life-Support Device Discount to water and electric service customers who provide proof that a member of household regularly requires the use of an essential life-support device. In addition, LADWP offers a Physician Certified Allowance Discount for customers who provide verification that a full-time member of the household is a paraplegic, hemiplegic, quadriplegic, multiple sclerosis patient, neuromuscular patient, or scleroderma patient being treated for a life-threatening illness.[89]

### 7. Additional Programs and Methods for Increasing Access to Service

#### a. Introduction

In addition to the programs discussed, each state may have distinct programs. For example, to address the problem where the customer is required to contribute thousands of dollars to

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[85] See, http://www.pcacares.org/ServiceDetail.aspx?service=Philadelphia+Water+Department+-+Home%2FHousing%2FRepairs%2FModifications; see also, http://www.phila.gov/water/educationoutreach/customerassistance/Pages/default.aspx.
[86] See, Id.
[87] See, http://www.phila.gov/Water/UESF.html.
[88] Access at 353; see, https://www.ladwp.com/ladwp/faces/ladwp/residential/r-financialassistance/r-fa-discountrates?_adf.ctrl-state=d5pufljw_4&_afrLoop=88205570683000.
[89] https://www.ladwp.com/ladwp/faces/ladwp/residential/r-financialassistance/r-fa-discountrates?_adf.ctrl-state=d5pufljw_4&_afrLoop=88205570683000.

construct a water line extension from the main to the customer's premises in order to receive service, Pennsylvania has approved utility-to-consumer loan tariff provisions.

Perhaps in part because of Pennsylvania's size and proportion of densely populated areas to sparsely populated areas, the expansion of service within regulated water utility service territories has not been consistent. Historically, extensions of water mains were governed by the "35- foot rule". In other words, if a new connection could be made by extending the main only 35-feet or less, the prospective customer was not required to pay a "contribution in aid of construction." In rural areas and even in many suburban areas, extensions to new customers that would require construction of mains only 35-feet long or less were rare even a decade ago, a situation that led to many complaints against water utilities over demands for cost-prohibitive contributions in aid of construction (CIAC).

In the mid-1990s, the 35-foot rule was abandoned in favor of an economic formula that weighs some of the costs of new main construction against the revenues the utility anticipates receiving from the prospective customers.[90] Particularly in the more sparsely populated areas where the costs of construction per prospective customer ran high, cost-prohibitive CIAC resulted from application of this formula in many cases and complaints against large water utilities continued to be filed.[91]

Partially as a result of the many complaints, large water utilities proposed tariffs allowing for assistance in the form of loans to customers who sought public water service due to a lack of supply or to contamination of their natural sources, but who were unable to afford the requisite CIAC. Since the hydraulic fracking drilling began in several areas of Pennsylvania several years ago, fears of water contamination due to drilling operations have increased and given rise to even more requests for public water service to replace on-site wells as a household water source. The program now available to assist those for whom the mandatory CIAC amounts may not be immediately affordable is described in the next section.

### b. Connection Loan Programs

The two largest public utilities in Pennsylvania have Commission-approved tariffs implementing loan programs for prospective customers who apply for service but who may have trouble paying for CIAC and the cost of installing the customer service line.[92] The

[90] 52 Pa. Code Section 69.1 *et seq.*

[91] Three appeals were filed from orders approving CIAC demands and the issue of the legality of the economic balancing formula came before the Pennsylvania Supreme Court. The Court agreed with the utilities and the Commission that the regulation requiring the use of the formula was lawful under the Public Utility Code and that the agency was entitled to deference in interpreting and applying its regulations. Popowsky v. Pa. P.U.C., 589 Pa. 605, 910 A.2d 38, 2006 Pa. LEXIS 2261 (2006).

[92] AquaPA's Water System Connection Loan Program is set forth in Supplement No. 67 to Water-PA. P.U.C. No. 1, Fifth Rev. Page No. 47 – Fourth Rev. Page No. 49; PAWC's Customer Connection Loan Program is set forth in Supplement No. 260 to Tariff Water – PA P.U.C. No. 4, 1st Rev. Page 18.1 – 18.3.

provisions of these two programs are virtually identical. Both programs are limited to applicants for service that are single-family residences and the loans are limited in amount ($8,000 for AquaPA and $10,000 for PAWC) for only certain items of plant and subject to certain terms and conditions. Both AquaPA and PAWC describe eligible costs as actual amounts for the main extension itself, the customer service lines, meter boxes or vaults, shut-off valves or backflow prevention devices, and alterations to customer plumbing required to permit the customer to take service.

For an AquaPA customer, the principal amount of the loan plus interest is repaid through a surcharge added to the customer's regular monthly water bill over a term selected by the customer of no less than three and no more than eight years. For PAWC customers, the payments are separately invoiced, also for a term of the customer's choice, between three and eight years. Both are fixed interest rates, set consistent with the posted short-term interest rate as of a date certain, but not to exceed 8 percent.

### c. Return on Equity (ROE)

Moderating utilities' rate increase requests is among the most direct of all ways that state commissions can increase the affordability of consumer bills. Although a profit is not guaranteed, an investor-owned utility should have the opportunity to earn a return on its invested capital sufficient to maintain financial integrity and attract needed capital. To help provide this opportunity, regulators generally determine an appropriate return on equity rate (ROE) for each rate-regulated utility.[93] There is no completely uniform approach to this determination across jurisdictions. However, there are common techniques and issues across jurisdictions and utilities. A discussion of some of these issues relevant to water utilities follows.

#### 1. Leverage at the Parent

Some regulatory jurisdictions recognize leverage at the parent company. Because the subsidiary's equity is not outstanding in the market, they rely on the parent to determine the appropriate return of a parent's subsidiary. A reasonable rate of return is one that recognizes that a subsidiary company's invested capital is comprised of different sources of capital generated from a pool of capital dollars provided by the parent, including debt and equity. Use of a leverage adjustment prevents profits resulting from excessive earnings on overstated rates of return.

[93] Consumer advocates and some regulators have argued that the level of return on equity should be adjusted downward, with a decrease in investor risk. See Mark Ballard, Capitol News Bureau, Miss. Regulators look at utility profits (Aug. 25, 2012). (Mississippi regulators following the lead of Louisiana Public Service Commission Chair in calling for lower return on equity where low interest rates make loans cheaper for utilities and "utility companies' risks are as low as they have ever been"). See also Mark Ballard, Capitol News Bureau, Campbell seeks drop in utility profits (Jul. 6, 2012). (Louisiana Public Service Commission considers whether return on equity should be dropped).

### 2. Market Return Methodologies

Appropriate results are most often achieved when regulators assume that investors have a long-term horizon in their investment decisions and rely on analysis that is based on market based ROE valuation models, such as the discounted cash flow model (DCF) and the capital asset pricing model (CAPM).

The economic foundation for using the DCF model is that the price an investor is willing to pay for an investment under any market condition depends on, and is equal to, the present value of the expected future income stream the investment is expected to generate. For a freely traded common stock investment, the market price reflects the present value of the expected income stream. The future income stream may take the form of cash dividends or capital gains. The combination of current and future income streams is what the investor relies upon in determining the investor's expected return on investment.

In the DCF model, the cost of common equity is expressed as K equal to D/P + G, where D is the dividend, P is the price of the investment, and G is the expected growth rate. The data points used in the DCF analysis are typically derived from actual market data for the publicly traded stock of a group of companies. This group of companies, called the proxy group, is carefully selected to fairly represent the risks and investor expectations associated with an investment in the utility in question. This same proxy group is also usually used in calculations performed under other models, such as the CAPM.

Further, the DCF yields more appropriate results when it is assumed that indicated dividend is the best indicator of investors' expected dividend. The indicated dividend is the most recently declared quarterly dividend multiplied by four to reflect the fact that utility common stocks generally pay dividends four times a year.

In addition, the dividend growth rates in the DCF model should be based on estimated values instead of forecasted growth rates of earnings per share. Growth rates should be determined through a full business cycle (often 10 years). Dividend growth rates should be determined by considering all components of dividend growth (Earnings Per Share or EPS, Dividends Per Share or DPS, Book Value Per Share or BVPS, and the Internal Growth Rate), and coming up with the best representative of dividend growth.[94]

In some instances, the CAPM is used to establish an ROE for a utility. An important factor in the CAPM is the mean market return. There are two frequently used approaches to computing a mean market return. One is based on the geometric mean market return. The other is based on an arithmetic mean market return from "Ibbotson-Morning Star."

[94] Benjamin Graham, David Dodd and Sidney Cottle, *Security Analysis: Principles and Techniques*, McGraw-Hill Book Company, 1962, p. 475.

The geometric mean calculation is preferable over the arithmetic mean calculation because the geometric mean calculation more accurately measures the change in wealth over multiple periods. There are several sources that support the use of the geometric mean vs. the arithmetic mean. In fact even Dr. Roger Ibbotson's 1982 SBBI yearbook supported the use of both the geometric and arithmetic mean risk premium to employ a CAPM analysis. In the 1982 Edition of *Stocks, Bonds, Bills and Inflation: The Past and the Future (page 59),* Ibbotson supported the use of a geometric mean as well as an arithmetic mean:

> The arithmetic mean historical return on a component is used in making one-year forecasts, since the arithmetic mean accurately represents the average performance over a one-year period. Over a long forecast period, however, the geometric mean historical return represents average performance over the whole period (stated on an annual basis). Therefore, we input the arithmetic mean for a one year forecast, **the geometric mean for the 20-year** forecast and intermediate values for two, three, four, five and ten year forecasts.

While more current editions of Ibbotson's *Stocks, Bonds, Bills and Inflation* yearbook advocate the use of only the arithmetic mean the authors have not found Ibbotson's explanation for his change. In the more current "Equity Risk Premiums (ERP): Determinants, Estimations and Implications – The 2012 Edition" (p. 25), Dr. Aswath Damodaran supports the use of a geometric mean risk premium:

> There are, however, strong arguments that can be made for the use of geometric averages. First empirical studies seem to indicate that returns on stocks are negatively correlated over time. Consequently, the arithmetic average return is likely to overstate the premium.

Another important factor in the CAPM is the risk-free rate of return. The determination of an appropriate risk-free rate of return is often at issue in rate proceedings. Long-term treasury-bond yield is best used as the basis of the risk-free rate of return. Long-term treasuries reflect the longevity of the holding period of an asset such as a common stock. Moreover, the beta in the CAPM reflects the necessary correlation between market return and a company's stock return.

### 3. Non-market Based Equity Valuation Model

The Comparable Earnings Model (CE) tends to overestimate the ROE for utilities because it relies on book value returns (realized returns) as opposed to market expected returns. The CE model assumes that the average book equity returns expressed by the "comparable risk" group is representative of investors' return expectation and thus indicative of the company's cost of equity. Book return is a measure of earned returns subject to operating elements of the utility. As opposed to market return, book returns ignore capital markets and thus do not react to

market changes. Additionally, the CE model assumes that there is a relationship between risk and book equity return where none exists.[95]

#### 4. Costs of Equity Premium Adders

Some utilities justify point adjustments based on different risk factors. Adjustments include:

1) a financial risk adjustment to the ROE of a utility to capture the higher investment risk of a utility that is riskier than the companies in the proxy group,
2) a business's risk adjustment to a subsidiary ROE because the subsidiary utility is generally smaller in capital size compared to those companies in the proxy group, and
3) size and flotation cost adjustments.

Financial risk adders disregard the market valuation process that already accounts for financial risk differences across companies. Additionally, investors are concerned with the aggregate risk of a utility and not its individual components. Lastly, when portfolios are aggregated on the basis of size, the beta risk premium approach fully explains returns across different companies.[96] Thus, adjusting the ROE to capture the risk associated with the small size of a subsidiary will unjustifiably overstate the subsidiary's ROE. Flotation cost is the cost incurred by a publicly traded company to issue new securities in the capital market. This adjustment is not usually relevant in the case of large holding companies in which equity capital has been outstanding in the market for a relatively long period of time and which have not issued new shares. Flotation cost has to be part of the overall cost to service as opposed to an equity return rate adjustment.

### B. Single Tariff Pricing vs. District Specific Pricing and Affordability

In utility rate cases, often one of the most challenging and contentious issues is how to design rates that are just and reasonable for all customers and customer classes. Commissions are often asked to adopt rate designs that balance cost of service with rate impact and affordability considerations. Affordability is greatly affected by how costs are spread to the various customers served by the utility.

Cost of Service (COS) studies may be used to determine the revenue requirement for the utility as a whole. Class cost of service (CCOS) studies assign revenue requirement at a more granular level identifying cost responsibility by class of customer. Cost assignment through COS and

[95] Solomon, E. and Laya J.E. "Measurement of Company Profitability: Some Systematic Errors in Accounting Rate of Return." In Financial Research and Management Decisions, Edited by Robiceck. New York: Wiley and Sons, 1967.
[96] Eugene Fama and Kenneth French. The Cross-Section of Expected Stock Returns. *The Journal of Finance*, Vol XLVII, No2. June 1992, Page 432.

CCOS studies can provide a utility regulator with a general guide as to the just and reasonable rates, but other factors are also relevant considerations. On a case-by-case basis, utility commissions must balance CCOS with the value of service to customers, service affordability, rate impact, and rate continuity, among other things.

One question that often arises is how to spread the costs of a utility among customers that are located in non-interconnected systems with different geographic and geological characteristics such as customer density and terrain, and in some cases differing sources of supply. In general, there are two schools of thought: share the costs or cost-causer-pays.

### 1. Single Tariff Pricing

Single-tariff pricing (STP) is defined as the use of a unified rate structure for multiple water or sewer systems that are owned and operated by a single utility, but that may or may not be physically interconnected. Under STP, all customers in a particular class of service pay the same rate for service, even though the individual systems or districts providing service may vary in terms of operating characteristics and costs. Costs are allocated to each customer class and district based on customer cost, revenues, and/or other factors. In this way, costs are spread across systems throughout the utility's territory, and in theory, are equally allocated to each customer. From a consumer impact perspective, a primary benefit of STP is that it helps to mitigate potential rate shock associated with significant capital improvements to any individual system by spreading recovery of those costs across a larger customer base. By spreading cost recovery across high and low cost systems, STP may result in more affordable rates for customers in small and/or high cost districts that lack economies of scale. Commissions may find that by spreading costs over a larger customer base, these cost differences and effects of necessary or large local district expenditures are smoothed out. Major improvements that could otherwise increase the rates of a small system by tens or hundreds of dollars per month might result in increases of only pennies per month if spread across the utility's entire customer base.

Some argue that STP reduces customer confusion and dissatisfaction associated with customers "looking over the fence" to compare their rates with those paid by customers in a utility's other districts. Other benefits attributed to STP include administrative ease in cost assignment, reduced resource costs in processing rate cases, and facilitation of large utility acquisition of small troubled systems.

However, an inherent difficulty under a STP structure is that system costs may not be similar for distinct, diverse, and non-interconnected districts. Districts may have substantially different characteristics, including different source of supply, different water quality, processing and treatment requirements, customer density, and differences in other distribution characteristics, such as age of the system. The result of averaging costs and dividing them among all customers is that some customers will pay rates below their district costs but some customers will pay rates in excess of their district costs. Because of the disparity in capital improvements and other cost characteristics exhibited between different rate districts, subsidization from the customers

of lower cost districts to the customers of higher cost districts could occur under STP. Subsidy exists if some customers pay rates that recover less than marginal costs while other customers pay rates that recover in excess of stand-alone costs. STP may also create market distortions by increasing incentives for a utility to make excessive district specific investments, under the reasoning that because there are more customers to pay for an investment, the per customer impact is lowered. This result represents a reduced focus on economic decision-making. Therefore, it is crucial that utility commissions monitor the growth of investments to assure the investments are appropriate to the district being served.

### 2. District Specific Pricing

District Specific Pricing (DSP) is defined as a rate structure under which direct costs associated with a specific system or district are recovered from that particular system or district. It is argued that DSP better reflects the disparity in capital improvements and other cost characteristics exhibited between districts compared to rates that recover a simple average of company-wide cost of service. In support, some argue that on a cost causative basis, DSP is a more appropriate method for recovering system costs that are primarily incurred on a "stand-alone" basis sharing only a limited amount of overhead costs and common corporate costs. DSP advocates also note that moving each district's revenue closer to its district-specific cost can work to reduce incentives for making excessive district specific investments. From a customer impact perspective, DSP can better accommodate differentiated pricing based on differences in service quality or water quality. DSP is also consistent with the common sentiment that customers are generally are willing to pay their own cost of service but are not so willing to pay for something which provides them no personal benefit.

One concern of DSP, especially for smaller systems, is that a significant capital improvement in one rate district could cause rate shock for the customers of that district. Investment costs are not always proportionately smaller with a smaller system size. While a capital investment in a district with a large number of customers could mean an increase of pennies on the bill, the same capital investment in a district with just a few customers could mean doubling or tripling the customer bill, potentially making it unaffordable. This may discourage necessary investment in infrastructure.

### 3. Evaluating Rate Pricing Programs

Both STP and DSP can represent rate design that reflects movement to cost of service among rate districts while balancing rate shock and other equity concerns. The question for regulators is whether the disparity in capital improvements and other cost characteristics exhibited among rate districts should result in a revenue request that only reflects district specific costs, or whether consumers could benefit from consolidated costs and rates where there are considerable common and allocated costs. Some considerations in determining whether STP or DSP is appropriate include how many different rate districts are under common ownership, what costs are common to the company, and what costs are particular to the district. For

systems with sufficient economies of scale, DSP can have advantages over STP. For example, moving each district's rate revenue close to its district specific cost can reduce the incentive to make unnecessary or excessive district specific investments. On the other hand, where there is a single owner of several systems with significant common and allocated costs, STP can capture economies of scale for consumers and reduce resulting costs for the utility, consumers, and commissions.

Both STP and DSP have merit from an economic and public policy perspective. But there are times when another design is needed. In some cases, consumer advocates have argued for flexibility to deviate from the application of strict DSP or STP when reasonably necessary based on all relevant factors. One type of alternative DSP rate design is a hybrid where an extremely high cost district is moved towards cost of service over a period of time. Another rate design hybrid consists of consolidation of districts with similar costs and structure. In a hybrid STP approach, districts with different water sources can be allocated different source costs, which are often recovered in consumption based rates, while administrative and customer service costs can be shared and may be included in a fixed customer charge. This flexibility helps to retain significant focus on cost of service among the rate districts while also balancing rate shock and other equity concerns of the customer.

# V. BEST PRACTICES IN AFFORDABILITY: BORROWING LESSONS LEARNED FROM OTHER UTILITY SECTORS

## A. Introduction

Current programs offered by water utilities for payment-troubled customers are limited. Of those that exist, as discussed elsewhere in this report, they include bill discounts, special low-income and/or special rate design, choice in billing date or more frequent billing, levelized (i.e., "budget") billing, arrearage management and payment plans, waivers of certain charges, plumbing assistance, referral to a government or private agency for assistance, education, conservation assistance, elder assistance, and flexibility of form of payment to include postdated checks or credit cards.[97] However, even utilities have indicated that current assistance programs are not sufficient to address current needs.[98]

[97] See infra, Section IV Current Studies, Programs and Practices: Types of Water and Wastewater Affordability Programs. See also Water Research Foundation and U.S. Environmental Protection Agency, Best Practices in Customer Payment Assistance Programs (2010) at 16.

[98] Id. at 18 (69% of surveyed utilities were either neutral or disagreed with the statement that their existing assistance programs address current needs well). Limitations of current utility programs, according to the utilities, included lack of available funds, the difficulty of distinguishing customers in need from irresponsible customers, narrow eligibility criteria, crisis assistance does not address the chronic financial problems of some customers, problems of program awareness and customers requesting help only after disconnection, slow processing of assistance payments, lack of communication between

An evaluation of some of the types of water and wastewater affordability programs in this report is discussed in this section. In addition, the water and wastewater sectors could adopt programs similar to those which were successfully implemented in other utility sectors, including the energy and/or telecommunications sector.

### B. Return on Equity[99]

Ensuring that the allowed ROE is as low as it can reasonably be set and adopting rate designs favorable to low-income customers are among the most direct ways that state commissions can increase the affordability of bills. Special scrutiny of utility claims associated with rate increase requests is justified when many ratepayers are grappling with foreclosure, unemployment, and lost employment or depressed wages. Commissions should place a new lens on how the rates and rate designs it approves will impact low-income customers at risk of disconnection and higher income customers who are having problems making ends meet.[100] For example, the West Virginia Public Utilities Commission recently disallowed certain routinely claimed utility expenses based on their magnitude and unreasonableness, "given current economic conditions."[101] How rates are designed to be recovered by different customer classes is key to whether residential customers will find rates to be affordable.

### C. Single-Tariff Pricing or Consolidation of Rates

In using single-tariff pricing or rate consolidation as a tool to average costs to smooth out peaks in pricing,[102] it is important not to lose the utility incentive to maintain efficiencies. For example, in making major distribution infrastructure investment in districts subject to single tariff pricing, a utility that can spread the increased costs across a larger consolidated customer base may lack incentive to negotiate a least-cost contract or otherwise control costs, knowing that increases in costs may amount to only a small increase on each customer bill. Decisions made

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utilities and local assistance groups regarding amounts of customer assistance received, and lack of personnel to address customer requests for assistance. Id at 18-19.

[99] See infra, Section IV.B.

[100] See, e.g., Paul Rogers and Steve Johnson, Governor says ratepayers should not pay for retirement of PG&E CEO, *Contra Costa Times* (April 22, 2011), available at: http://www.contracostatimes.com/busienss/ci_17911977?nclick_check=1.

[101] See Commission Order on the Application for a Rate Increase, Appalachian Power Co. and Wheeling Power Co., both dba American Electric Power, Docket No. 10-0699-E-42T at 54 (disallowing certain routinely claimed expenses based on their magnitude and unreasonableness "given current economic conditions").

[102] Single-tariff pricing can be especially effective as a mechanism to enable a utility to expand, acquire, or consolidate with a smaller system that is in need of expensive repair and improvement. The larger customer base of the acquiring utility can help subsidize the costs of repairing and improving the smaller system. Without single-tariff pricing, undertaking the repairs and improvements would result in exorbitant rates for customers of the smaller system.

with the assumption that added costs can easily be absorbed through the enlarged customer base can result in numerous unnecessary and unjust additional expenses to customers.

In interests of accountability and lowering costs to ratepayers, it may be preferable that certain expenses, such as large infrastructure investments, be tracked and attributed to consumption and need in specific areas of a company's territory. In this transparent way, it is possible to maintain incentives to the utility to negotiate lower cost contracts. Tracking expenses on a district specific level even in the context of single-tariff pricing or rate consolidation can help to ensure that companies are held accountable and incur only those costs that are reasonable. A reasonable cost standard may in some cases be synonymous with least-cost. Alternatively, there could be a threshold expenditure level established by the commission so that certain investment, operational, maintenance and/or administrative costs that exceed a threshold amount for a given service area/district, are deemed unreasonable and therefore unrecoverable from ratepayers. See Appendix A for more on consolidation.

### D. Low-Income Rates or Discounts and PIPPs

Instead of considering low-income rates a "subsidy," it may more appropriate to consider low-income rates a "discount" in cases where low-income rates recover marginal costs and make a contribution to fixed costs. This characterization of low-income rates is similar to the characterization of "discount rates" that are offered to industrial customers that also recover marginal costs and make a contribution to fixed costs.

Some energy utilities offer a percentage of income payment plan. The Percentage of Income Payment Plan (PIPP) is an example of a rate design that reduces the contribution of low-income customers toward the overall utility revenue requirement through reduced rates. PIPPs are payment plans that do not exceed a certain percentage of the customer's income. The PIPP could be imported to the water sector as well. While reduced rates, such as the PIPP, may be supported through surcharges or very slight rate increases to non-low-income customers, if lower uncollectibles result, the total required utility revenue could be the same as it would be without PIPP.

### E. Arrearage Management Plans

Arrearage management programs (AMPs) can consist of the utility writing-off and forgiving a portion of the customer's debt along with a structured payment plan for the remaining arrearage and new charges. Arrearage management plans have been found to encourage good customer payment patterns when customer diligence in making consistent monthly payments is rewarded by forgiveness of a portion of the arrearage. An arrearage forgiveness program comprised of an affordable fixed payment plan,[103] budget counseling, and forgiveness of past

[103] Customer payment patterns improve when bills are made predictable. Camille Watts-Zagha, Status of Energy Utility Service Disconnections in California, Division of Ratepayer Advocates (Mar. 2011) at 20

debt in exchange for timely payments under the new plan can help the customer pay down past charges.[104]

In Massachusetts, AMPs have been adopted by gas and electric companies with great success.[105] Representatives of Massachusetts's large and small regulated energy companies alike report that AMPs have kept payment troubled customers connected longer and payments received by customers have increased with AMPs. Massachusetts prohibits late payment charges to residential customers by energy utilities, opting instead to provide credits to low-income households' accumulated arrearages. The credits demonstrate progress toward bill payment and serve as an incentive for delinquent customers to keep up on their current and future bills to maintain gas and electric services over the long-term. The utility, by maintaining these customers, also maintains streams of customer revenue that otherwise would be lost when customers are disconnected, without reconnection.[106]

In Pennsylvania, AMPs (which include budget counseling) along with efficiency programs and PIPPs have been combined with success.[107] In Washington, a utility program that combined a PIPP with arrearage forgiveness, weatherization, and consumer education, reported positive results as well. The program reported a reduction in delinquency, reduction in write-offs, reduction to average grant assistance, increased customer contribution to revenue, and decrease in disconnections.[108]

The above energy assistance examples from different states demonstrate that targeting customers for enrollment in a combination of assistance programs can be effective and these approaches should be considered in addressing the affordability of water and wastewater service. While there is some administrative cost to providing additional assistance programs to customers, costs are mitigated because customers who receive adequate assistance are better able to make regular bill payments that provide a stream of income to the utility service

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(citing Apprise and Roger Colton, Ratepayer Funded Low-Income Energy Programs Performance and Possibilities Final Report, July 2007, Executive Summary, xiii).

[104] Jerrold Oppenheim, Esq. and Theo MacGregor, Low Income Consumer Utility Issues: A National Perspective (Oct. 2000) (Oppenheim/MacGregor, National Perspective), available at http://www.democracyandregulation.com/detail.cfm?artid=22&row=1, at 15.

[105] See Charlie Harak, *Helping Low-Income Utility Customers Manage Overdue Bills through Arrearage Management Programs (AMPs)* at 22 (NCLC 2013), available at http://www.nclc.org/images/pdf/energy_utility_telecom/consumer_protection_and_regulatory_issues/amp_report_final_sept13.pdf.

[106] *See* 2005 Mass. Acts Ch. 140 § 17(a) (Nov. 22, 2005) at http://www.mass.gov/legis/laws/seslaw05/sl050140.htm.

[107] Jerrold Oppenheim, Esq. and Theo MacGregor, Protecting Low-Income Consumers: Building on Two Decades of Lessons Learned (Nov. 2000) (Oppenheim/MacGregor, Lessons Learned), available at http://www.democracyandregulation.com/attachments/23/ENTERGY_paper.doc (Sections IV.A.2 and IV.A.3).

[108] Oppenheim/MacGregor, Lessons Learned at http://www.democracyandregulation.com/attachments/23/ENTERGY_paper.doc (Section IV.A.3)

provider. This income might be lost if these customers are terminated. Costs can be mitigated by reduced arrearage carrying costs, uncollectibles, and bad debt; reduced termination and reconnection costs; reduced costs of establishing new payment plans; reduced costs of collection and termination activities and notices; and reduced administrative and regulatory costs of resolving bill disputes and other complaints.[109]

### F. Payment Plans

Payment plans should be implemented with the goal of maximizing the opportunities for payment-troubled customers to meet their payment obligations. This requires flexibility and consideration of individual circumstances. In New York, for example, "a utility must negotiate in good faith with a customer in order to arrange a payment agreement that the customer or applicant is able to pay, considering his or her financial circumstances."[110]

When reviewing utility data regarding number and frequency of customer defaults on payment plans, advocates should first review whether the payment plan offered and entered is realistic, with a reasonable possibility of being maintained by the customer. If not, it would be incorrect to simply conclude that a default on payment means that the payment plans are ineffective or that customers are irresponsible. Rather, the plans likely are in need of improved design.

Unreasonable payment plans that are offered to payment-troubled customers should be reviewed by the commission. Advocates can consider seeking a requirement from the commission that when a utility offers a customer a payment plan, it should be reasonable based upon each payment-troubled customer's financial and special circumstances. A reasonable plan should maximize the customer's opportunity and ability to pay as well as maintain essential services to the household.

Because low-income households may experience changes to household income and circumstances more frequently than do more stable, higher-income households, advocates may want to seek a commission requirement that utilities offer an opportunity for renegotiating the payment terms if the customer defaults or if the customer's financial circumstances have changed significantly due to conditions beyond his or her control.[111] Utilities could be required to offer payment troubled customers at least one second payment agreement.[112]

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[109] *See* Oppenheim/MacGregor, National Perspective at 2-3, available at http://democracyandregulation.com/detail.cfm?artid=22.

[110] 16 NYCRR 14.10(a) (3) (deferred payment agreements for water utility customers).

[111] See, e.g., 16 NYCRR § 14.10(a) (5); 16 NYCRR § 11.10 (e) (1) (ii).

[112] New York requires water utilities to renegotiate and amend a payment agreement if the customer or applicant demonstrated significantly changed financial circumstances due to conditions beyond his or her control. *See* 16 NYCRR § 14.10 (a) (4).

### G. Waiver and Apportionment of Late Payment Charges and Partial Payments

Apportionment of customer payments may become an issue where both an arrearage and a current bill are owed. In some cases, a utility's tariff may allow it to allocate partial payments among components of the bill in proportion to the amount owned on each component.[113] However, a policy that first directs payments to the basic provision of water or wastewater service, rather than affiliate charges or water line maintenance charges, could help enable the customer to maintain service where there is also a policy against terminations for affiliate charges.[114]

Additionally, late payment penalties should be reviewed for whether they are appropriate to impose on low-income consumers. For example, if a policy goal is to increase affordability of service and reduce terminations of service due to nonpayment, late payment charges could be waived for low-income customers at risk of disconnection. Late fees and reconnection fees may be inappropriate and counterproductive to a goal of keeping payment-troubled customers connected to their essential water and wastewater services.[115] Some states have prohibited late charges from being applied to customers who fall into a general residential hardship category; prohibit late fees on arrearages below a certain dollar amount; or have prohibited late fees entirely on certain utility bills. Instead, they opt to promote ways that payment-troubled customers can meet a significant portion of their obligations.[116]

### H. Billing Frequency Choice and Choice in Billing Date

Some utilities have moved away from quarterly billing in favor of monthly billing, stating that smaller amounts on more frequent bills will be more easily paid by consumers. While this may be true for some consumers, a change to monthly billing that fails to match the consumer's income receipt cycle can put some consumers at greater and more frequent risk of disconnection.

Selecting a payment due date that will best enable customers to meet their payment obligations should be considered by policymakers. While data or studies that directly answer the question

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[113] See, e.g., Pacific Gas and Electric Company Tariff, Gas Rule No. 9.E.5.

[114] This is an analog of telecommunications policy where payments toward arrearages are first applied to help maintain basic telephone service, before optional services.

[115] Similarly, reconnection charges imposed upon low income customers may be counter-productive in that they present yet another cost barrier to already payment-troubled customers in re-establishing their utility service.

[116] See, e.g., Mass. Gen. Laws Ch. 164, § 94D (gas and electric companies cannot impose late fees on residential accounts); *In re Bozrah Light & Power Co.*, 76 Pub. Util. Rep. 4th 697, *1986 Conn. PUC LEXIS 87, *49* (Conn. Dept. of Pub. Util. Control 1986) (no late fees for residential hardship customers); Or. Admin. R. 860-021-0126 (energy utilities may only impose late charges on balances of at least $200 that are carried over two consecutive months, and the utility must offer the customer the opportunity to select a preferred billing date).

of whether a choice in billing date option results in lower arrearages are difficult to find, state regulatory agencies and utilities adopting the practice show it to be of value. The Oregon Public Utility Commission and Arkansas Public Service Commission have adopted the choice in billing date option. Oregon prohibits energy utilities from imposing late charges on residential customers unless the customers were offered the option of selecting or changing a bill date.[117] Arkansas has an "extended due date policy" that allows certain customers to ask utilities to change the payment due date "to coincide with or follow the customer's receipt of that income."[118]

There are also examples of utilities offering a customer-choice-in-bill-date option. In California, Pacific Gas and Electric Company (PG&E) has noted that it accommodates customer requests for different monthly billing dates, within the capacity of PG&E's operations.[119] Entergy in Arkansas provides the Pick-A-Date program.[120] Wisconsin Public Service, an electric and gas utility, offers Preferred Due Date, which allows customer choice for monthly billing date.[121] Some Pennsylvania utilities offer a modified billing date to customers, who receive Social Security or other such fixed income by monthly checks. The due date is adjusted to a time after the monthly check is received.[122] While not a true choice-in-bill-date option, this option also illustrates an attempt to address the very real problem that a mismatch of consumer income to expenses cycles poses to making timely payment.

## I. Federal Assistance: Low Income Water Assistance Program (LIWAP)

While consumers have benefitted from federal telecommunications and energy assistance programs for many decades, one glaring omission of federal policy is a federal assistance program that directly helps low-income consumers maintain water and wastewater service.

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[117] OR. ADC 860-021-0126(2)(a) (energy customer has opportunity to change bill date at least once every 12 months).

[118] 126 03 CARR 003 (Rule 5.09 of Arkansas Public Service Commission General Service Rules provides this option to customers receiving Aid to Families with Dependent children, Aid to the Aged, Blind and Disabled, Supplemental Security Income, or customers who have Social Security or Veterans Administration disability or retirement benefits as the primary source of income).

[119] *See* Reply Comments of the National Consumer Law Center on Phase II Issues Pursuant to ALJ Ruling of August 26, 2010, Docket R.10-02-005 (Sept. 24, 2010) at 1 (quoting Pacific Gas and Electric Company's Opening Comments on Phase II Scoping Memo Issues).

[120] http://entergy-arkansas.com/your_home/mypaymentoptions. *See also* http://www.entergy-arkansas.com/content/price/tariffs/eai_ps01_padp.pdf.

[121] *See* http://www.wisconsinpublicservice.com/home/preferred.aspx.

[122] *See* UGI Utilities, Inc. Gas Tariff Including the Gas Service Tariff and the Choice Supplier Tariff, Supplement No. 91 to Gas-Pa.P.U.C. No. 5, available at http://www.ugi.com/gasmngmt/UGIU/doc/tariff/GStariff.pdf (Rule 9.3.1); PPL Electric Utilities Corporation General Tariff, Supplement No. 102, Electric Pa. P.U.C. No. 201 (Rule 9.C), available at https://www.pplelectric.com/at-your-service/electric-rates-and-rules/current-electric-tariff/~/media/PPLElectric/At%20Your%20Service/Docs/Current-Electric-Tariff/rule9.pdf.

To help ensure that affordability-challenged communities receive the same public health protections provided to other areas and to assist low-income consumers in small systems with high rates due to compliance costs associated with the Safe Drinking Water Act, the National Drinking Water Advisory Council (NDWAC) recommended in 2003 and in 2009 that a Low Income Water Assistance Program (LIWAP) be adopted.[123] LIWAP was envisioned as an analog to LIHEAP, possibly to be implemented as grants to states to provided targeted assistance and funded by Congressional appropriation.[124] As noted by NDWAC, "By providing financial assistance at the individual household level, rather than, or in addition to, assistance at the system level, more of the taxpayer funding would go to households in need. When a water system is subsidized, all ratepayers benefit from taxpayer support, even those who are not low income."[125]

Although NDWAC recommended LIWAP to address the affordability gap for customers of small systems, it is explicitly modeled on LIHEAP, a program of much larger scope. Additionally, in 2004, NARUC passed a resolution "to develop effective programs to assist low-income water utility ratepayers, considering, but not limited to LIHEAP as a potential model."[126] These proposals indicate that LIWAP or a similar direct assistance program to consumers should not be limited to small systems, but should also be considered to address affordability issues in larger systems.

In 2002, the Congressional Budget Office (CBO) concluded that direct federal assistance to consumers could be more efficient than investment in water systems:

> "*Federal aid to households could address distributional objectives with more precision and less loss of efficiency than can be achieved from aid for investment in water systems.* A program that aided households directly could be more cost-effective in achieving a given distributional objective because fewer households would face reduced water prices and water system managers would not face distorted choices [footnote deleted]. A program designed to defray the expense of basic water use –one that provided a dollar amount determined by the number of members in the household instead of paying benefits as a proportion of water

[123] See EPA National Drinking Water Advisory Council, Letter from Gregg Grunenfelder to Lisa Perez Jackson, U.S. Environmental Protection Agency (June 12, 2009) at 3, available at http://www.epa.gov/safewater/ndwac/pdfs/letter_ndwac_admin-06-12-09-small%20systems.pdf; EPA National Drinking Water Advisory Council, Recommendations of the National Drinking Water Advisory Council to U.S. EPA on Its National Small Systems Affordability Criteria (July 2003) at 35-40, 93-94.
[124] EPA National Drinking Water Advisory Council, Recommendations of the National Drinking Water Advisory Council to U.S. EPA on Its National Small Systems Affordability Criteria (July 2003) (NDWAC) at 37-38.
[125] NDWAC at 93-94.
[126] See National Association of Regulatory Utility Commissioners, Joint Resolution Supporting a LIHEAP-Equivalent to Assist Low-Income Drinking Water Utility Ratepayers (Mar. 10, 2004), available at http://www.naruc.org/Resolutions/liheap04.pdf.

> bills, for example – would not affect households' marginal costs of water consumption, thus preserving incentives for consumers to avoid overusing water services [footnote deleted]. A consumption subsidy could also be designed to support conservation measures –for example, by subsidizing repairs to fix leaky plumbing. However, beneficiaries (and others allocating funds on their behalf) are likely to prefer direct assistance over conservation measures with even moderately long payback periods. [footnote deleted].[127]

While it has not been implemented, the idea for a federal water assistance program for low-income households has been raised. So far, there has been a lack of Congressional will to make LIWAP a reality. Advocates should periodically review whether an effort to implement a LIWAP at federal or state level is feasible.

### J. Utility Assistance

An alternative or addition to implementing LIWAP broadly would be implementing similar grant assistance at the utility level. For example, Fuel Funds have been established by energy utilities. In Ohio, qualified families can receive this benefit once a year and receive up to $300 (and in some instances, up to $500) to pay a bill. These funds can be funded by utility revenue or external funds. A utility can contribute funds, which are managed by a community assistance agency that is under contract, to help the utility's customers apply for and access the fund.

Grant assistance from the utility should be distinguished from utility-sponsored loan assistance. While loans from the utility to the customer ideally assist customers with upfront costs such as installation of new customer service lines, these loans to already payment troubled customers can be disastrous. Such loan proposals by utilities should be reviewed carefully by advocates. A consumer's default on a loan could result in loss of water service or in the utility placing a lien on the consumer's property, ultimately risking loss of the home.[128] Regulators and advocates should review the proposed consumer eligibility criteria for such loans and determine whether it is necessary to condition approval of utility loan proposals on the simultaneous adoption of consumer safeguards. Safeguards could include disconnection protections, clear disclosure of the risks involved in defaulting on the loan, and a consumer right to renegotiate and revise a payment plan when the consumer is at risk of default.

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[127] Congressional Budget Office, Future Investment in Drinking Water and Wastewater Infrastructure (Nov. 2002) at 42-43 (emphasis added).

[128] Especially in the context of municipal run utilities, a small amount on an overdue water or wastewater bill can subject the customer's home to a tax lien, which if not paid, can result in a foreclosure sale. In one instance, an elderly woman in Rhode Island was evicted from her home of over 40 years two weeks before Christmas due to a $474 arrearage on a sewer bill. Her home was bought at a tax sale for $836.39, and the buyer sold the home for $85,000. John Rao, *The Other Foreclosure Crisis* (National Consumer Law Center July 2012) at 9, 37, available at http://www.nclc.org/issues/the-other-foreclosure-crisis.html.

## K. High Cost Fund

In the telecommunications industry, the High Cost Fund is one of the four mechanisms of Universal Service, the federal program focusing on bringing voice communication services to everyone in the country at a reasonable charge.[129] The High Cost Fund is the largest Universal Service Fund,[130] with the intent of making telecommunications service in rural and other high cost areas affordable and reasonably comparable to those of urban areas. Universal Service programs have contributed to an achievement of a steady penetration rate for household telephone subscribership of about 96 percent.[131]

While not prevalent in the water or wastewater industry, California has approved what some might consider a version of a high cost fund for use within one water utility.[132] The California Public Utilities Commission approved a Rate Support Fund (RSF) for all California American Water Company (Cal Water) customers in three districts. Unlike the industry-wide telecommunications high cost fund, the scope of RSF applies to customers of the single utility, but the RSF was established with similar ideas and purposes. Similar to telecommunications' universal service fund, which has both a high cost component and low-income discount component, the RSF, as initially established, provides support for both high cost areas as well as support for a low-income discount.[133] The RSF applies to entire geographic areas (districts) rather than to particular low-income customers. The RSF is funded through a surcharge of $0.010 per 100 cubic feet for all metered customers and a flat rate surcharge for flat rate customers throughout Cal Water's territory.

A high cost fund implemented in the water sector could follow the RSF model. This would be an example of a utility-administered approach. Each regulated water utility in a state could be directed to implement a company-wide high cost fund. This approach may allow each utility to knowledgably target the funds within its own service territory.

However, ratepayer funding that is utility-managed and directed must be paired with accountability measures and commission review for reasonableness. Accountability measures

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[129] The other three mechanisms of the Universal Service Fund (USF) are Low Income (i.e., Lifeline), Schools and Libraries, and Rural Health Care. It should be noted that recently, the FCC has ordered that USF be transformed to the Connect America Fund, with a focus on broadband deployment.

[130] In 2008, the federal telecommunications high cost fund represented 63% of universal service payments, or almost $4.5 billion. *See* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf at Chart 19.1 and Table 19.2.

[131] See http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-306752A1.pdf at Table 3 (penetration rates).

[132] See D.00-06-075 (Cal. P.U.C. June 22, 2000) at 14 (idea of high cost fund mentioned in an application case for rate consolidation: "a state-wide fund collected from all water customers to provide lifeline rates to customers in high-rate districts").

[133] Over time, the RSF's low-income component has been absorbed into Cal Water's Low-Income Rate Assistance (LIRA) program, a standalone low-income support program.

could include tracking fund expenditures and demonstrating a relationship to infrastructure projects in high cost areas, and providing justification for funding as necessary. Reasonableness and accountability measures may also include holding the funds in an interest-bearing account, with interest dedicated to the benefit and use of the company's customers.

A high cost fund could also be represented by a modified version of the RSF. Instead of a fund established for use within a single company, a high cost fund could be applied to encompass customers of all state-regulated water and/or wastewater utilities. In this case, this industry-wide fund would be administered by the state commission or another third party unaffiliated with the utilities. All customers in all districts of all regulated water and/or wastewater companies would contribute to a single, central fund.[134] The advantage of a high cost fund administered by the commission or third party is the potential of more even-handed allocation of funding across utilities, creating opportunities for smaller utilities to access a larger funding pool in any one instance. Customers of large utilities could also benefit from an equally large distribution of high cost assistance.

Variations in how a high cost fund is implemented could include whether the fund emphasizes direct customer bill assistance, similar to the telecommunications Lifeline program, or indirect customer assistance with infrastructure and operational costs in high cost areas. Another variation could include what constitutes the source of revenue for the fund. In the case of California's RSF, a surcharge is applied to the company's broader customer base. Alternatively, a high cost fund could be funded through a tariff provision that allocates a percentage of retail water revenues to the fund. For example, a high cost fund, either separately or in addition to other water/wastewater customer assistance programs could be funded by 1 percent of retail water/wastewater revenues.[135]

However, while Cal Water's RSF makes "rates more affordable for all Cal Water customers in highest-cost areas, provi[ding] additional support for low-income customers, and does both at minimal cost to its other ratepayers,"[136] the California Public Utilities Commission has voiced concern that application of RSF assistance might be inefficient. The RSF applies to all customers in Cal Water's three targeted districts, including customers who are able to afford their water bills.[137] Another potential problem with a high cost fund is that, if improperly designed to broadly apply to all high cost areas, it could result in lower income ratepayers in lower cost of service areas subsidizing higher income ratepayers in higher cost districts. However, a high cost fund could be designed to target only eligible customers.

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[134] Depending upon the laws and regulations of a particular state, there might be a single high cost fund established for water and wastewater, or water and wastewater companies would separately establish two high cost funds.

[135] *Cf.* Eugene Water & Electric Board, Customer Care Programs, http://www.eweb.org/assistance ($2 billion annually, from approximately 1% of electric retail revenues, benefits more than 4,000 households with utility bill assistance every year).

[136] D.06-08-011 (Cal. Pub. Util. Comm'n Aug. 24, 2006) at 13.

[137] D.06-08-011 (Cal. Pub. Util. Comm'n Aug. 24, 2006) at 12.

Eligibility standards for customers to benefit from a high cost fund, if adopted, should take into account income and number of household members.[138] The benefit could be applied as a percentage discount off a household's water bill. Alternatively, to encourage conservation, the benefit level could be a dollar amount that takes into consideration the average consumption for the average household of similar income and size. The result of a dollar discount should be that larger households with more members receive a higher benefit level than smaller households with fewer members. The National Regulatory Research Institute recommended that a list of questions be considered regarding whether a telecommunications high cost fund should be established at state level. In addition to the considering the items already discussed, the same questions that apply in the telecommunications arena could be asked by regulators and advocates in determining whether a high cost water fund is appropriate to implement in a state.

These include:

1) whether there is need for a fund;
2) whether the law permits the establishment of the fund;
3) the goals of the fund;
4) the services, providers, and facilities that would be supported by the fund;
5) which distribution mechanism is best;
6) what controls, if any, should there be over growth of the fund;
7) how funds will be collected;
8) who administers the fund; and 9) how does one evaluate the fund and how is accountability achieved?[139]

The immediate appeal of a high cost fund applied to water is similar to its application to telecommunications in that it can help make an essential utility service affordable in areas that are costlier to serve. While similar investment and expenditures for infrastructure and facilities may be needed to serve a metropolitan and a rural area, the smaller customer base upon which to spread costs in the latter may make utility service prohibitively expensive there. Additionally, implementing a high cost fund may help alleviate the complaints of inequities that can arise under single tariff pricing, when one district largely subsidizes the costs of service of smaller, high cost districts.

### L. Referral to Other Assistance Programs and Agencies

Because affordability is enhanced whenever discretionary income becomes more available, customers should also be made aware of energy and telephone discounts and assistance programs. To the extent that the same customers who are eligible for water assistance are also

[138] See infra, Section III.

[139] National Regulatory Research Institute, State High Cost Funds: Purposes, Design, and Evaluation at Appendix A (Summary of Steps to Establish a High Cost Fund) available at http://www.nrri.org/pubs/telecommunications/NRRI_state_high_cost_funds_jan10-04.pdf.

eligible for energy, telephone, or other assistance programs, utility representatives should be knowledgeable to make those referrals. These representatives need not be utility personnel, but can be members of community based organizations with whom the utility contracts for outreach and application enrollment.[140]

Enrollment of eligible households in water and wastewater affordability programs could be paired with conservation training for the customer.[141] While low-income customers will likely have less elasticity of water demand and may lack opportunity to conserve beyond their current efforts to limit their water bills, all customers could benefit from conservation education. As an example of pairing conservation with rate relief, Golden State Water Company in California ran a pilot from 2009 to 2011, through which the company sought to assist income-qualified customers already receiving a discount in hard-to-reach service areas, where distribution of high efficiency toilets was not available.[142] The Low-Income Direct Install Project, implemented under a grant, was directed toward self-selected discount-rate customers. They received installation of two high efficiency toilets or ultra-high efficiency toilets after taking a water use survey. Additionally, participating customers received installation of high efficiency showerheads and low-flow bathroom aerators to achieve conservation savings estimated at 50 percent or more of usage. Although these programs were not mandated and are no longer running, they appear to have been valid attempts to balance the increased costs of utility investment in hard to serve areas with more affordable rates through conservation programs. Additionally, leak detection, pipe inspection, and minor repairs and efficiency measures in the home could be performed by utility personnel or trained representatives of community action agencies to ensure that a problem of affordability is not inadvertently caused by waste.[143] Minor repairs could include fixing leaks. Efficiency measures could include installing low-flow showerheads and faucet aerators.[144]

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[140] *See* The Results Center, Philadelphia Water Department, Conservation Assistance Program Profile #109 (Lessons Learned/Transferability section) (Results Center), available at http://ecomotion.us/results/pdfs/109.pdf (through utility's contract with independent, education-oriented, community-based organizations, the same field crew can efficiently deliver gas, electric, and water assistance programs at the same time, potentially during a single visit to the customer's home).

[141] CalAm has described a pilot conservation program in its Los Angeles that incorporates some of these suggestions, including conservation education and installation of efficiency measures. *See* CalAm Annual Water Conservation Program: 2010 Annual Report.

[142] The discount was through the California Alternative Rates for Water (CARW) program.

[143] *See* Results Center, available at http://ecomotion.us/results/pdfs/109.pdf.

[144] Id. Installing low-flow showerheads, efficient toilets, and low-flow bathroom aerators was also undertaken by California's Golden State Water Company in a pilot program in 2011.

# VI. FRAMEWORK FOR THE FUTURE

Few people, if any, would question that shelter and water are needed for subsistence at the most basic level. While federal, state, and municipal laws and policies have directed support to low-income housing, comparably widespread and available governmental laws and policies for consumers struggling to obtain or maintain water and wastewater service remains lacking. This is especially surprising because disconnection of either water or wastewater service makes a residence uninhabitable and can become a housing problem. This discrepancy may be because costs for water were much lower in the past. Today, however, water rates are considerably higher, and will likely continue to outpace inflation.[145]

The offering of direct customer assistance for obtaining water and wastewater service should be the norm, rather than the exception. Rather than a "subsidy," it may more appropriate to consider low-income rates a "discount" in cases where low-income rates recover marginal costs and make a contribution to fixed costs. This characterization of low-income rates is similar to the characterization of "discount rates" that are offered to industrial customers that also recover marginal costs and make a contribution to fixed costs.

Discounts for the benefit of low-income and payment troubled consumers can be targeted in different ways – to customers or to utilities. For customer-directed programs, customers paying a greater proportion of income to water and/or wastewater bills could receive higher discounts relative to other customers who pay a smaller proportion of their income to these bills. Alternatively, customers could receive a fixed monthly credit that is calculated based on the customer's income and expected annual bills. In most cases, discount programs should preserve a price signal to customers receiving the benefit so they can appreciate the true cost of water.

Discount programs and assistance programs should be paired with conservation training and leak repair programs To the extent that conservation education and leak repairs can assist those who have not maximized their opportunities to conserve, reducing low-income customers' water demand can be an effective way to reduce bill payments and increase bill affordability. Conservation kits could include a low-flow showerhead, a faucet aerator, toilet flapper, leak detection tablets, and educational materials.[146] The company could provide residential audits, rebates, conservation devices, and installation of high efficiency toilets for certain customers.[147]

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[145] See Water Research Foundation/EPA at 29-31 (change in water and wastewater costs is greater than change in general inflation).

[146] Breisach, Raymond et al., Results and Recommendations of Water and Wastewater Affordability Study (2004) (Breisach) at 20, Report prepared for the City of Kalamazoo Department of Public Services, available at http://research.upjohn.org/reports/180/.

[147]. California American Water Company had a direct installation pilot program in its Los Angeles and Sacramento districts as part of the 2010 Conservation Program. Through the direct installation pilot, CalAm provided residential audits by WaterWise Consulting, rebates, conservation devices, installation of high efficiency toilets. *See* CalAm's Water Conservation Program 2010 Annual Summary Report.

While there is some administrative cost to providing additional assistance programs to customers, costs are mitigated because customers who receive adequate assistance can make regular bill payments. There will also be numerous reduced costs associated with arrearages termination and reconnection, collection and termination, and bill disputes and other complaints.[148] Giving a role to community action agencies in assisting customers with enrolling in the programs can also lower costs of government administration.[149]

On the other side of the coin, for programs directed toward utilities, policymakers should ensure that companies do not lose incentives to control expenses and pursue more efficient operations. For example, California is re-examining the state subsidy to telecommunications providers through the High Cost Fund-A because the commission found that companies participating in that program were "gold plating" by spending much more in expenses than non-participating companies. In other words, because of the way California awards funds from the High Cost Fund-A to companies, the Fund creates an incentive for telecommunications providers to build unnecessary improvements on top of their already adequate systems. Added investment increases the ratebase, and therefore contributes to justification for increasing rates where the rate calculation depends upon the amount in ratebase.[150] Such funding assistance should be tracked and traceable to a benefit to the utility's low-income or payment troubled consumers. This ensures accountability and avoids problems like gold plating.

The first step in designing an affordability program that directs benefits to the utilities rather than directly to consumers is to ask whether any cost reductions and additional control of escalating costs are possible. If cost reductions and efficiencies have been maximized, and affordability is still an issue, assistance funded through a subsidy may be appropriate.

### A. Better Data Reporting Requirements

The lack of good quality and uniform data reporting across utilities and states poses a problem for policymakers seeking to create informed and effective rules and regulations. Uniform data reporting can help shed light on the true cost of water and wastewater service, bring to light management and financial problems, and help identify best practices for wider

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However, depending upon the size of the up-front costs, rebates may not be feasible for low-income households who lack the ability pay the up-front costs.

[148] See Oppenheim/MacGregor, National Perspective at 2-3.

[149] See Breisach at 12-13, Report prepared for the City of Kalamazoo Department of Public Services, available at http://research.upjohn.org/reports/180/ (citing Saunders).

[150] California Public Utilities Commission Telecommunications Division Staff, Workshop in R.11-11-008 (Cal. Pub. Util. Comm'n July 17, 2012).

implementation.[151] The lack of routinely collected uniform data could be remedied by a uniform reporting requirement.[152]

Where limited data may pose an obstacle to making informed decisions, such as deciding whether water affordability programs are needed or how they should be implemented, it has been suggested that specific items of data be collected by state commissions as part of annual filing requirements:

1) number of terminations for nonpayment,
2) number of customers in arrears,
3) uncollectible levels,
4) number of low-income customers, and
5) percent of eligible customers participating in affordability programs.[153]

Additionally, tracking customer complaints regarding water affordability would be helpful.[154]

The National Association of State Utility Consumer Advocates (NASUCA) has passed a Resolution 2011-2, Urging States to Gather Uniform Statistical Data on Billings, Arrearages and Disconnections of Residential Gas and Electric Service.[155] No such NASUCA Resolution presently exists for water service, but the reasons requiring Resolution 2011-2 are also applicable to water service. For example, Resolution 2011-2 points out that uniform data can help better evaluate the design and effectiveness of payment mechanisms for payment troubled customers, and that "uniform reporting by utilities of billing and arrearage data enables policymakers to quantify both the number of consumers who are experiencing problems in paying their utility bills and the financial impact of the arrearages [footnote deleted]".[156] Compilation of this data helps to evaluate adequacy of financial assistance programs whereas lack of consistent data and reporting impedes identification of best practices and standards.[157]

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[151] It has been suggested that implementing and considering consumer affordability programs should be undertaken similarly to how a business plan is undertaken. This would include establishing a way to measure and evaluate the effectiveness of the mechanism that likely will include a cost benefit analysis.[151] See Water Research Foundation/EPA at 10-11. Underlying data would also be important to review.

[152] See Melissa J. Stanford, Memorandum to NARUC Committees on Water and Consumer Affairs (April 27, 2007) (Stanford) at 17 (noting lack of data to be shortfall of study on determining need for water affordability programs and their structure).

[153] See Stanford at 18.

[154] Id.

[155] Similarly, in 2007, the National Association of Regulatory Utility Commissions passed a NARUC Resolution Supporting the Gathering of Data for Electric and Natural Gas Distribution Companies by Individual State Utility Commissions or Energy Offices (November 14, 2007). See http://www.naruc.org/Resolutions/CA1%20Resolution%20Supporting%20the%20Gathering%20of%20Data%20for%20Electric%20and%20Natural%20Gas%20Distribution%20Companies%20by%20Individual%20State%20Utility%20Commissions%20or%20Energy%20Offices.pdf.

[156] National Association of State Utility Consumer Advocates Resolution 2011-2 at 1-2.

[157] Resolution 2011-2 at 1.

Among other things, data on billings, arrearages, and collections should be publicly available, to "enable [] an understanding of issues of affordability impacting customers in paying utility bills and the effectiveness of available resources to help customers."[158]

### B. Areas and Issues for Additional Affordability Research

One possible area for future review is the use of benchmarking to increase incentives for utilities to actively manage their customer bills, rates, and affordability programs. Benchmarking for affordability requires regulators to set or approve a realistic aspiration for utilities to achieve on a given affordability related measurement, such as number of customer terminations due to nonpayment. For example, if a utility typically undertakes termination of X customers per month, a benchmark could be set for a monthly termination rate of no more than 80 percent of X, representing a goal of reducing terminations due to nonpayment by 20 percent. If the benchmark is not met, the utility is required to take certain actions, such as implementing new assistance programs, investing more in outreach regarding enrollment in its existing low-income and/or assistance programs, increasing reporting requirements (i.e., reporting the number of terminations for nonpayment as a new metric or reporting it on a monthly rather than annual basis), and waiving reconnection charges in prescribed instances.[159] Incentives for the utility to actively manage its termination rate so that it falls at or below the benchmark threshold would be the condition precedent for regulators to relax or lift the increased utility obligations. Benchmarks should be paired with meaningful obligations that will help address the problem of affordability, even absent improved performance on the utility's own initiative. Both benchmarks and obligations should be aspirational, represent real improvement from the utilities' past performance, and realistically achievable with some effort from the utility.

Along with benchmarks, another area to investigate is assistance programs for low-income consumers in rental situations. Many low-income consumers are renters, not homeowners. Most affordability programs discussed impact the customer of record. In the case of a

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[158] Resolution 2011-2 at 2.

[159] As a settlement provision, benchmarking has proven to be effective in reducing the rate of disconnections by energy companies in California, which have actively managed their disconnection rate to stay below the benchmark in order to avoid obligations imposed by settlement designed to mitigate the impact to customers of higher levels of disconnections. Following its successful implementation in settlement, the California Commission subsequently incorporated a similar benchmark mechanism in its order applying to two of the state's largest energy utilities. See National Consumer Law Center, "California Adopts Measures to Help Reduce Utility Disconnections of Vulnerable Households, http://www.nclc.org/images/pdf/energy_utility_telecom/electric_and_gas/cpuc-disconnectorder.pdf. See also Settlement and Order in CA PUC Docket R-10-02-005, Order Instituting Rulemaking on the Commission's Own Motion to Address the Issue of Customer's Electric and Natural Gas Service Disconnection, available at http://www.nclc.org/images/pdf/energy_utility_telecom/electric_and_gas/model-settlement-cu-utilities.pdf (settlement dated Sept. 10, 2010) and http://www.nclc.org/images/pdf/energy_utility_telecom/electric_and_gas/final-order-phase-2.pdf (Order dated Mar. 22, 2012).

low-income consumer who rents, his or her water and wastewater may be paid for by the landlord and the costs included in rent. The problem is ensuring that the benefits of affordability programs reach low-income customers when it is the landlord who is the utility's customer.

Lastly, before delving into research for which affordability mechanism should be implemented in a particular situation, the first question should be to ask whether the utility is already doing everything possible to operate in a cost-effective way. For example, unaccounted water that is a persistent and continuing problem in a system may create unnecessary costs for consumers who in their rates are paying for the supply, treatment, and delivery of water that is never used. To the extent that such a utility expense can be eliminated or reduced through reasonable cost measures, those measures should be undertaken as priorities. Taking relatively simple steps such as deploying leak detection devices and undertaking a systematic and routine program of leak detection and repair can help break a cycle of unnecessarily high bills.

Water and wastewater bills throughout the United States have increased significantly over the last few years and will likely continue. States, regulatory bodies, and advocates should consider adopting affordability measures such as those discussed here to reduce the burden on low-income customers who require water and wastewater service as a basic life and public health necessity.

 

# APPENDIX A: CONSOLIDATION AND REGIONALIZATION

Consolidation and regionalization are terms that are interchangeably used. However, regionalization usually refers to the combination or merging of separate water systems within a region. Consolidation, however, is broader, and is used to refer to not only regionalization, but also informal agreements between systems to provide a service or share resources (informal cooperation); formal service contracts with another system (contractual assistance); multiple independently operated systems partnering to form a new entity to meet a goal or undertake a specific project (joint powers agency); rate consolidation (single-tariff pricing); and acquisition of a system by another entity through which management is combined or merged.[160]

Informal agreements may benefit small systems with the sharing of knowledge, expertise, facilities and supplies, equipment and bulk purchasing power.[161]

Through more formal contractual assistance, small systems may call upon another entity to conduct monitoring, operation and maintenance, and emergency assistance, among other services.[162]

A joint powers agency can be used where systems will perform more effectively in a partnership than acting independently, such as developing new water sources, shared ownership of storage and lab facilities and/or equipment and supplies, and sharing costs of billing and collection.[163]

Single-tariff pricing, as a move away from cost-based pricing for the specific community to which it is applied, can distort the price signal but has the potential to provide more affordable service to customers of small systems and can mitigate rate shock.[164]

Ownership transfer can be used to merge systems, either voluntarily or through regulatory requirement, where one system can no longer independently operate, due to lack of financial, technical, or managerial expertise and resources.[165] Merger could include interconnecting multiple systems, but such interconnection is not necessary and may be difficult due to distance and geography.

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[160] See Paige S. Manning, et al., Consolidation Issues: Pros, Cons, Options and Perceptions (Mississippi State University Extension) (Manning, et al.)at 6-8.
[161] See id. at 6.
[162] See id. at 7.
[163] See id. at 8.
[164] See Janice A. Beecher, U.S. Environmental Protection Agency and the National Association of Regulatory Utility Commissioners, Consolidate Water Rates: Issues and Practices in Single-Tariff Pricing (Sept. 1999) (Beecher) at viii and 57.
[165] See Manning, et al., at 8.

Small water systems that serve fewer than 3,300 customers [the upper threshold number that the EPA uses to classify customers in what is defined as a small water system] are generally not expected to be able to achieve economies of scale on their own, such as in production, especially if they lack any large volume users.[166] Therefore, consolidation of separate agencies or operations can potentially lead to economies of scale (declining cost per unit of production) and elimination of duplicate services. Consolidation can lead to savings in operation, maintenance and administrative expenses; capacity planning and development of supplies, and combined efforts in management, billing, engineering and inspections, laboratory services, leak detection, meter reading and testing, and equipment maintenance.[167] Other advantages may include additional financing opportunities for capital investment to replace aging infrastructure that may not be available to smaller systems.[168] Consolidated systems may better comply with federal and state safe drinking water requirements, due to increased access to skilled employees with necessary expertise.[169]

Some states, such as Pennsylvania, have a Commission policy encouraging consolidation, and/or single tariff pricing.[170] Incentives include rate of return premiums, acquisition adjustments, deferral of acquisition improvement costs and a temporary plant improvement surcharge.[171] Through single tariff pricing, the rates of the main division of the acquiring company are applied to the rates of the acquired territory. Texas has a different, but somewhat similar code provision that encourages consolidated rates by region.[172]

Disadvantages and barriers to regionalization include the imposition of potentially burdensome acquisition debt upon ratepayers, and some inequities in costs and benefits among different communities when comparing the investment per new customer in the smaller, acquired system, with investment per existing customer of the larger, acquiring system.[173] There may be

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[166] See Beecher at 32-33.

[167] See Mike Lee, Water agencies consider consolidation, UAT San Diego (May 16, 2011); see Manning, et al., at 4.

[168] See Manning, et al., at 6-8. Larger and more diverse customer bases can lead to increased access to public funding and grants. Id. at 4.

[169] See id. at 4.

[170] See 52 Pa. Code 69.711(a)(6).

[171] See 52 Pa. Code 69.711. See also and 66 Pa.C.S. § 523 (adjustment to rate of return allowed for efficiency, effectiveness and adequacy of service); 66 Pa.C.S. § 1327(e)(credit acquisition adjustment); 66 Pa.C.S. § 1327 (a)(debit acquisition adjustment).

[172] *See* Texas Water Code 13.182(c). New York also encourages consolidation of small water systems as a policy, although it does not mean approval of consolidation in every case. See Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Aqua New York, Inc., Case 08-W-0107 (Dec. 23, 2008), 2008 N.Y. PUC LEXIS 760, *2-*3 (citing Case 93-W-0962, Incentives for Acquisition and Merger of Small Water Companies, Statement of Policy on Acquisition Incentive Mechanisms for Small Water Companies (issued August 8, 1994) (AIM Policy).

[173] See Manning et al., at 5, 9.

a loss of local control or responsiveness to local customer service issues. There may also be confusion among customers regarding whom to contact for water service.[174]

In approaching the question of whether to consolidate, it has been suggested that consolidation should result in economic efficiency, equity in cost bearing among customers, political accountability and responsiveness to customers, and administrative and technical efficiency.[175]Toward that end, it has been suggested that the following questions be considered: (1) whether the utility has an operating ratio (operating revenue to operating expenses) of 1.0 or more; (2) what is the condition of the infrastructure; (3) whether the system can afford the costs of necessary improvements; (4) whether the characteristics of the customer rate base will support costs of needed improvements and/or obtaining state and federal grants for improvements; (5) whether the price and terms are fair; (6) how customers will be impacted such that they are treated fairly; (7) whether new debt will be incurred for additional improvements and what countervailing effect may there be from reduction of expenses through consolidation; (8) what are the alternative and impacts to not consolidation; (9) whether there exists technically capable staff to operate the combined system; and lastly, (10) what is the public's sentiment about potential consolidation.[176]

[174] Id.

[175] See Manning, et al., at 13-14.

[176] See Manning, et al., at 10-13.

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