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Utility rates and the political environment

UTILITIES CAN USE MULTIFACETED
APPROACHES AND STRATEGIES
WHEN PROPOSING RATE INCREASES
THAT SUPPORT THE LONG-TERM
BENEFIT OF THE UTILITY'S
STAKEHOLDERS.

A public utility is a nonprofit enterprise that brings together time, effort, and capital to provide an essential benefit to the public at a reasonable, sustainable cost with the highest level of service. Reasonable cost refers to the rates charged for the high level of service that includes uninterrupted service, compliance with regulations, consideration of environmental effects, and overall financial position and credit strength with the objective of satisfying customers. One of the goals of the rate implementation process is to have regulators (i.e., publicly elected or appointed officials, board and utility committee members, and rate regulators) think of the utility as a business instead of a government program. To accomplish this, regulators need to have a general understanding of a utility system's facilities and purpose, regulations affecting facility construction and cost, rates and financial parameters, and compliance requirements associated with bonds, loans, and service agreements as well as the overall needs of the stakeholders. A critical component of a successful rate implementation plan is to link the business concept to the need for rate adjustments.

UNDERSTANDING THE RATE IMPLEMENTATION PROCESS

Although there is no "one size fits all" approach to the rate implementation process, there are several steps utility management should consider. Though many of these steps may be common sense approaches, they often are not recognized or performed. These steps are described here.

Adopting business principles. Business principles provide a framework for service requirements and serve as a basis for long-term business decisions for the utility; such principles should be approved or agreed on by the regulators. Over time, compliance with the business principles will have an effect on utility management rate recommendations. Examples of business principles may include the following.

- The provision of utility service is an essential public need and must comply with all regulations imposed on utility by federal, state, and local agencies in order to meet the public health and safety requirements of the utility stakeholders.

- The utility is an enterprise that should be financed and operated in a manner similar to private businesses so that the costs of providing services on a continuing basis to the stakeholders are financed or recovered primarily through user charges. This is consistent with the definition of an enterprise fund by the Governmental Accounting Standards Board (www.gasb.org/).

- Rates should be designed to always recover the full cost of providing service. Full cost includes operations and maintenance expenses; debt service; ongoing funding for renewals, replacements, and improvements linked to utility plant service life, condition, and criticality of need; and funding of adequate reserves for working capital, asset replacement, rate stabilization, and other purposes. It is important that regulators adopt the components of full cost in utility rates.

- Rates should enable a utility to remain financially viable and maintain financial creditworthiness,

including a balanced debt-to-equity capital structure. The utility must comply with any rate covenants associated with outstanding debt and should conform to all regulator-adopted financial and operating policies. At a minimum, all utilities should consider having debt and financial reserve policies that recognize both operating and capital reinvestment considerations.

- The utility's capital and financial plan should recognize that "growth should pay for growth." Payments received from new growth could include developer contributions consisting of impact fees or capacity charges, utility plant or other capital contributions, guaranteed revenue charges to pay the carrying costs of capacity in advance of connection, and specific fees tied to the development process (i.e., plan review and inspection fees if performed by utility personnel).

- Rates should be affordable for all ratepayers.

Establishing financial policies and performance measurements. It is good practice for utilities to have written financial policies regarding debt management (including coverage and leverage targets) and cash balances that comply with industry best-management standards and that have been approved by the regulators—such policies can help the rate case and are favored by credit rating agencies (which often request copies of the financial policies when reviewing utility; part of the overall credit rating considers the existence of such policies). The cash balance policy should include operating reserves (e.g., equal to at least 90 days of operating revenues) and a capital replacement fund (based on a comprehensive asset management plan that identifies all plant renewal and replacement needs for the utility system). Other cash reserves should be established based on the specifics of the utility and may include allowances for rate stabilization, anticipated changes in regulations, alternative



Using photographs of a utility's renewal and replacement needs can graphically illustrate to regulators and the public the reasons for raising rates. Top left, a severely tuberculated water main; top right, a hydrogen sulfide-damaged pipe; center left, a deteriorating manhole; center right, aging water plant infrastructure; bottom left, a corroded well pump; bottom right, aging lift station infrastructure.

water resource supply funding, and emergencies/catastrophic events.

In addition to establishing formal financial policies, utility management adoption of financial performance measures or benchmarks supported by the budgetary process is critical to the ability to adjust rates. These financial performance measures should focus on both the annual operations (statement of revenues, expenses, and changes in fund net assets [income statement]) and financial position (statement of net assets [balance sheet]). The key is to establish performance measures that enable management to accurately gauge trends in financial performance, operations, and overall compliance with the financial policies. Examples of important financial performance measures include operating margins, cash-to-depreciation-expense relationships, net utility plant funded by debt, outstanding debt per customer or equivalent dwelling unit, and inflation-adjusted unit cost trend analyses (e.g., direct and fully burdened system cost of water produced).

Maintaining ongoing multiyear capital improvement plan. As part of the rate case development, utility management should ensure that the multiyear capital program is necessary, reasonable, attainable, and fundable. Utility management must understand the availability of financial resources available for capital spending and must establish criteria

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to prioritize the projects. Such criteria to evaluate the projects could include—in order of priority—public health and safety (the project addresses working and public health/safety issues); regulatory compliance (the project promotes



An example, such as this photograph of a severely tuberculated force main, can provide a powerful illustration to show at a public meeting because it communicates that the public's drinking water may be transported through such pipes.

regulatory and contractual compliance); system reliability (the project reduces the risk and consequences of asset failure and addresses other attributes of asset management [redundancy]); community/customer benefit (the project addresses service issues such as pressure, taste and odor, and customer satisfaction); and sustainability (the project will result in long-term cost efficiencies and has environmental benefits; Matchich, 2009). During the rate case process, utility management may need to defend the capital plan and explain the importance of the major capital needs and why they are included in the plan.

Facilitating ongoing communication with regulators. In many instances, regulators may not understand the nature of the utility business or the reasons for incurring costs and periodically increasing rates. A continu-

operating conditions and financial position—including major issues affecting the utility system—well in advance of the rate case. It is also beneficial to provide tours of facilities to the regulators so they can see the system condition firsthand. Pictures and samples (i.e., “bring the system to them”) presented at public meetings can also be effective communication tools that help regulators (and the public) understand the utility system condition and the criticality of improvements. Before the public meeting to request rate increases, it can be helpful to have one-on-one meetings with regulators to allow them to ask questions and acquire greater understanding of the need for rate adjustments while not in the public spotlight.

Evaluating cost reductions. In today's economic climate, in which customers view any rate increase as unacceptable, utility managers must recognize that securing rate adjustments may involve a give-and-take approach. The utility should evaluate itself internally and reduce unnecessary expenditures before requesting a rate increase from the customer (this should not include the deferral of ongoing maintenance, which may produce unintended consequences such as spikes in spending or more expensive capital replacement). The utility may need to perform a comprehensive review of its system costs to ensure that all actions to control costs and

operate efficiently have been taken. It is important to communicate these actions to regulators.

Using media. Utility management can use various media to communicate issues affecting the utility system and explain the need for rate adjustments. Newspapers (including editorials), public announcements, utility bill inserts, and letters to customers are important communication tools that can help build support for the utility's financial plan.

Hiring an independent rate consultant. Preparation of the rate case is often outsourced to an independent rate consultant who works with the utility staff; public works, finance, and customer service departments; and the utility's consulting engineers and legal counsel to develop recommendations that meet the utility's rate and financial objectives. An experienced rate consultant can bring additional credibility to the rate case and may be able to sell rate

increases more effectively than utility management can alone.

BUILDING A PUBLIC PRESENTATION

A presentation at a public meeting is the link between regulators and customers. Presentations educate the public and reiterate issues that have (ideally) been communicated previously to the regulators.

Utility rate increases are often a necessity because of certain economic (e.g., inflation, recession, changes in customer base or usage), environmental (e.g., drought, climate changes), and regulatory forces. An effective way to present a strong utility rate case is to show evidence that allows all parties involved to affirmatively state that rate increases are in the best long-term interest of the utility's customers. Rate increases are integrally linked to the utility's approved business principles, which support operational efficiency, financial sustainability, and compliance with performance criteria recognized by credit rating agencies while minimizing rate effects on the utility's customers over the long term.

Before the public meeting, regulators should be supplied with comprehensive documentation that details the rate case so they can see the level of thought and analysis from which recommendations were derived. Such documentation may include the rate study report, with an executive summary; answers to any previously submitted questions; other supporting documentation and summary schedules such as letters from third-party regulators, consent orders, condition assessment documents and pictures, and engineering studies; and an advance copy of the presentation slides. Full disclosure is a good principle to follow with respect to communicating with regulators.

A representative presentation that provides the necessary information to compel regulators to adopt or approve the recommended rates

FIGURE 1 Sample revenue requirements analysis

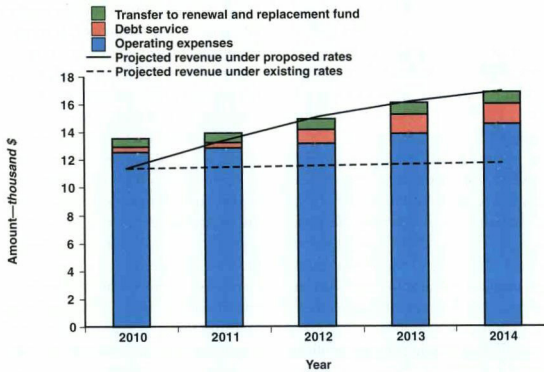
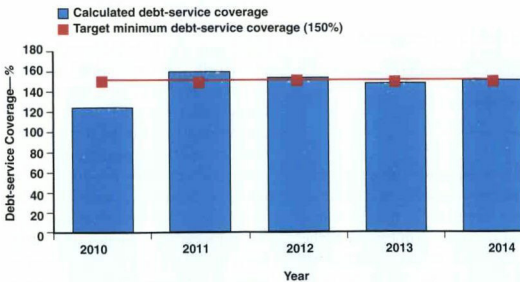


FIGURE 2 Projected all-in annual debt service coverage excluding connection fees



might have the following key discussion topics on the agenda.

- Utility system overview
- Principles that are used to guide utility ratemaking
- Major issues affecting the utility
- Financial forecast
- Projected revenue sufficiency and financial performance
- Proposed rates, rate comparisons, and customer effect
- Requested action

There may be time constraints (e.g., long agenda, attention span of regulators) during the public hearing that necessitate an abridged version of the rate case presentation. The old adage of “be brief, be brilliant, and be gone” may be appropriate; however, the presenter should use caution in making sure that no key selling points are eliminated when reducing the presentation length. Often, longer presentations to communicate a rate case are more acceptable if made during a dedicated or special public rate workshop. Regardless of the presentation length, the presenter should be prepared to discuss all of the listed topics, and it is advisable to have prepared “frequently asked questions” slides to address any relevant issues not covered in the main presentation.

Preparing a utility system overview.

Some of the regulators, such as newly elected or appointed individuals, may not be familiar with utility system operations; therefore, it may be a good idea to begin the rate case presentation with a brief utility system overview. Such information could include a mission statement and the major goals of the utility’s business plan, utility system attributes (e.g., number of water and wastewater customers, source of water supply, treatment plants in service and their respective capacities, miles of water and wastewater mains, average age of the system and when last major upgrades were accomplished), dollar value of the utility system investment, and any utility awards or recognitions (e.g., treatment plant recognized for design or operational excellence, won award for best-tasting water).

Communicating utility ratemaking principles. Within this part of the presentation, the utility’s business principles that support the rate case should be communicated to reiterate the framework of the business on which the rate case is predicated.

Discussing major issues affecting the utility. This part of the presentation is a good place to discuss when the last formal rate study was performed and when the rates were last increased. The financial forecast has been previously prepared or updated to reflect current economic and environmental conditions because the utility needs to ensure proper recovery of total system costs. If applicable, discuss major assumptions from the last financial forecast that have changed (e.g., material change in customer growth or usage habits, differences in previously projected operating expenses, higher capital costs than previously estimated). The major drivers of the need for rate adjustments can then be communicated. Examples of these drivers may include the situations described in the following sections.

Revenue collections are lower than projected. During the economic downturn that began in 2007, many utilities experienced a substantial decline in new customer growth and a loss of water sales resulting from home foreclosures in utility service areas and mandatory water use restrictions that limited irrigation to one or two days per week (a change for communities that previously allowed watering three days per week). Utilities with significant growth through the housing boom in 2005 and 2006 suddenly experienced significant changes in the number of customers and the amount of sales (Table 1).

If user rate revenue is lower than what was previously budgeted or forecast, efficient operations and debt-service coverage could be negatively affected. Moreover, as a result of an economic slowdown, the utility may also receive a lower

amount of capital contributions or capacity charges/impact fees from developers or new growth, representing a loss of financial resources initially programmed for capital funding. In many cases, impact fees are also a utility system’s pledged revenue used for debt repayment and are included in the debt-service coverage calculation; a reduction in impact fee collections may also

Sample Financial Forecast

The primary purpose of a public utility’s financial forecast is to identify trends, issues, and cost-recovery strategies and to ensure that the rates will produce sufficient revenues to meet all revenue requirements and comply with bond/loan covenants and the utility rate guiding principles.

- + Cost of operation and maintenance
- + Debt service payments (senior and subordinate)
- + Transfers and administration payments
- + Capital funding from revenue (pay-as-you-go)
- + Working capital reserves/rate stabilization/financial compliance
- Other operating revenue
- Capacity charges/impact fees used to pay growth-related debt service
- Unrestricted interest income
- Transfers from other funds
- = Net revenue requirements (funded from user rates)

negatively affect the utility's ability to meet rate covenants.

Operating expenses continue to increase. There are many factors that affect the costs of operations over which the utility has no control. Factors such as rate increases from electric power providers, changes in fuel and oil prices resulting from global market changes, competition

expenses; this shows that the utility has responded to any reductions in revenue. In today's economic climate and as a precursor for getting a rate increase adopted, it is important for utility management to reduce costs where reasonable and practical. This may even be demanded by the stakeholders. However, regulators must understand that most operating costs

utility may be faced with larger revenue deficits in the future.

Issuing new debt through the capital funding plan. Whether the utility is securing a loan through the low-cost state revolving loan programs or issuing revenue bonds, there usually is a rate covenant in the form of a minimum debt-service coverage test that must be met. The utility should establish a financial policy that may dictate the need to exceed the minimum required coverage to maintain a strong credit rating and lower borrowing costs over the long term.

Debt financing can be a beneficial practice for funding large capital projects such as system expansions in advance of growth or for major renewal and replacement projects. Advantages of debt financing may include the following:

- Debt financing reduces the annual cash flow to the level of debt service over the term of the debt. Although resulting in higher total capital financing costs because of the interest on debt as well as debt issuance costs, this practice avoids sizable rate spikes that may result from pay-as-you-go financing for large projects (i.e., frees cash flow for immediate benefit to the ratepayers).

- Greater fairness to ratepayers can be achieved with good debt funding practices by amortizing the recovery of the capital project costs over the life of the debt instrument

When discussing increases in operating expenses, it is important to communicate any actions the utility has taken to reduce operating expenses.

for scarce resources such as concrete and building materials, and union contracts that stipulate or guarantee a certain percentage salary increase each year may result in cost increases that are greater than changes in the consumer price index. Increased regulations and standards for water and wastewater treatment are other significant factors that could immediately affect the cost of operations. Although utilities attempt to manage the cost of operations, a significant amount of the expenses is uncontrollable and must be passed on to consumers.

When discussing increases in operating expenses, it is important to communicate any actions the utility has taken to reduce operating

expenses and that during recessionary times they cannot be reduced proportionally with lower revenues.

Regulators may attempt to lower the proposed rate adjustments through additional cost-cutting measures (e.g., freeze or reduce salaries and benefits, eliminate positions, defer repairs and maintenance, postpone or eliminate capital projects or other programs). There is nothing wrong with streamlining operations, but it is important to ensure that any cost reductions will not significantly or noticeably impair the utility's level of service approved by regulators and that the reductions are sustainable. If cost reductions are not sustainable, the rate relief is only temporary, and the

TABLE 1 Sample historical trends experienced by growth-oriented Florida utilities (2005–09)

Year	Growth and Use of Water System					
	Water System Annual Average Account Growth			Monthly Usage per Account		
	Account Growth	Change from Base Year (2005)		Gallons	Change from Base Year (2005)	
		Amount	Percent		Amount	Percent
2005	1,309			9,572		
2006	1,332	23	1.8	8,986	(586)	-6.1
2007	775	(534)	-40.8	8,646	(926)	-9.7
2008	295	(1,014)	-77.5	7,650	(1,922)	-20.1
2009	161	(1,148)	-87.7	7,836	(1,736)	-18.1

to match asset utilization by the customer over the life of the asset (e.g., 30-year repayment schedule, 30-year asset service life).

- For expansion-related projects, using debt financing is beneficial because it allocates capital cost recovery to the future; this provides a better opportunity for growth to occur and the use of impact fees to substantially fund expansion-related debt-service requirements. This will allow growth to pay for itself to the extent practical and will limit rate increases to the existing ratepayers. It is understood that the primary pledge for debt repayment is from monthly user rates (recurring revenue). Accordingly, adequate planning for capacity based on reasonable and sustainable growth projections coupled with the adoption of fees to recover capital costs (e.g., impact fees) and the cost of carry (e.g., guaranteed revenue charges) is necessary to limit existing customer rate increases.

Funding an annual allowance for renewals and replacements/pay-as-you-go capital funding. Regulators must be made to understand that funding of capital renewals and replacements is different from annual spending. The key is for the existing ratepayer to fund the use of the asset for the eventual replacement of that asset. An important component of the rate case presentation is to illustrate the magnitude of the gross utility investment (less land and any other assets that are not depreciable or replaced) and the corresponding capital replacement accrual expressed on an annual percentage basis. Recognition of a funding allowance equal to 2% of the utility's gross asset value without land is often a substantial percentage of operating revenues. The annual funding allowance should be predicated on the assets in service; this is an important point to present to the regulators. For example, the capital replacement funding level could be based on the formula of cost divided by asset life times per-

cent recovery factor, recognizing the following cost recovery factors: 100% of the replacement cost for short-lived assets ranging from five to 10 years, e.g., vehicles and meters; 50% of the replacement cost for assets with service lives ranging from 10 to 20 years, e.g., pumps; and 25% of the replacement cost for assets with service lives that exceed

20 years, e.g., structures and pipes. To maintain the certitude of funding availability, all money collected should be deposited into a designated capital recovery fund so that utility management and regulators can readily identify the purpose and availability of such funds.

Correspondingly, the capital improvement program represents the

FIGURE 3 Projected available year-end cash balances

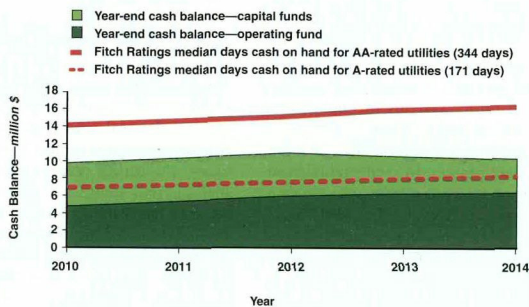
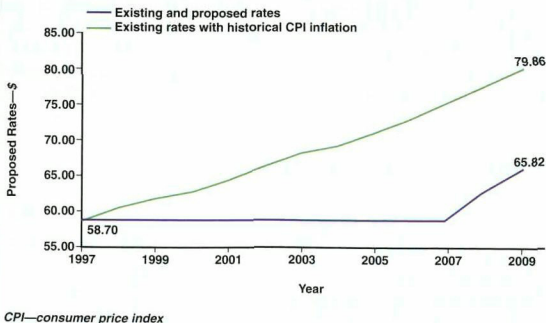


FIGURE 4 Sample comparison of proposed versus existing rates adjusted for historical CPI inflation: Single-family residential customer with a 3/4 in. meter and average monthly water and wastewater use of 4,000 gal



spending of money recovered from operations. It is recommended that this money be deposited into the capital recovery fund. Ongoing renewals and replacements allow assets to meet their useful service lives, whereas major renewals and replacements extend the useful service lives of the assets. The utility must routinely replace aging infrastructure; this is a public health and safety issue and a problem faced by many utilities in the industry. The American Society of Civil Engineers, in its 2009 Report Card for America's Infrastructure, assigned a grade of D- to America's drinking water and wastewater systems, citing the large amounts of unfunded and unexecuted renewals and replacements (R&R) considered necessary in utility systems throughout the United States (ASCE, 2009). R&R funding is also recognized as a prudent practice by credit rating agencies, which use certain key ratios to evaluate R&R funding sufficiency.

Many bond resolutions, trust indentures, and loan agreements authorizing the issuance of debt by public utilities have a provision for annual R&R funding, often with a minimum required annual deposit to the R&R fund equal to 5% of the previous year's gross revenues. If the utility has no policy for an R&R funding mechanism, it is prudent to establish one. A sound method for planning R&R funding is to assess replacement and maintenance requirements for all capital assets and to build the annual debt- or revenue-funded requirements into the overall rate requirement projec-

tions, which ultimately aids in the rate adoption process.

Some utilities retain a professional engineer to perform an existing conditions analysis that can more accurately estimate the true R&R needs of the utility. Incorporating the results of such a study can bring additional credibility to the rate case. The costs of construction have tended to increase even in economic downturns. During the past 10–15 years, the Construction Cost Index published by *Engineering News-Record* has had a compound annual growth rate of more than 3% (ENR, 2011).

For utilities with serious R&R funding needs, examples of the deficiencies taken from the field or images of such needs presented at public meetings can be more convincing of a real need than can an oral or written description. In some cases, the utility may be able to bring actual samples of pipes or other property units that have been recently replaced. In the experience of the authors, during televised meetings, regulators have sometimes posed with samples to communicate why they are voting for the rate increases. Examples of utility system deficiencies such as those shown in the photographs on pages 52 and 53 can help communicate the need for addressing a utility's aging infrastructure.

Providing a financial forecast. This section of the presentation should provide a discussion of the years covered by the financial forecast (e.g., five years) and an explanation of the financial forecast's purpose

in order to identify the net revenue requirements to be recovered from monthly user rates (see the sidebar on page 55). A discussion of the major assumptions in a rate case is appropriate for such topics as customer growth and sales volume, total revenue requirements, and funding sources for the capital program.

A graphical representation of the revenue requirements can be a useful communication tool to demonstrate that the proposed rates are recovering the revenue requirements but are not overrecovering. A simple example of this is provided in Figure 1, which shows a utility with three revenue requirements displayed as components of the bars: operating expenses, debt service, and a transfer to the R&R fund. The solid line shows projected revenue, including revenues anticipated to be received from customer growth, under the proposed rates; the dotted line shows revenue assuming no rate increases (status quo; revenue under existing rates).

Any revenue above the debt-service portion of the bars (i.e., any revenue after operating expenses and debt service are paid) represents net revenues higher than the 100% debt-service coverage. If revenue collections exactly equaled the revenue requirements in a given year, the solid revenue line would intersect at the top center of the bar for such a year. If revenue is lower than the revenue requirements, the utility must use existing cash reserves to fund the annual rate deficiency, whereas if revenue is higher than the revenue requirements, the rates are sufficient to meet all revenue requirements

TABLE 2 Sample projected performance of a utility

Published Medians From Ratings Agencies	Year					2010 Fitch Medians		
	2010	2011	2012	2013	2014	AAA	AA	A
Average system increase—%	0.0	11.0	11.0	3.0	3.0			
All in annual debt service excluding connection fees—%	125	160	153	147	152	240	190	140
Days cash on hand	262	259	250	242	232	544	344	171

during that year and are contributing to the utility's cash reserves.

Presenting the projected revenue sufficiency and financial performance. Unless rate increases are applied uniformly to the various components of the rate structure, the utility's customers will be affected differently if new rates are implemented. The utility should present the effects of revenue recovery based on the cost-of-service analysis and be prepared to answer questions from certain user classes and regulators about any perceived inequities. If the fixed monthly charge is increased significantly to enhance revenue stability or changes in cost recovery, users with low monthly water consumption may receive bills that have increased by a greater percentage than the "average" rate increase. Likewise, if the proposed rate design is intended to shift more cost burden to the large users in a tiered (conservation) water rate structure, such users would also receive a higher-than-average increase in their bills. Therefore, to achieve regulator buy-in on system needs before focusing on the effects of the proposed rates (cost recovery) on specific customers and classes, it may be appropriate to discuss the overall system revenue increases needed to meet the revenue requirements.

When a five-year or a multiyear plan for revenue increases is presented, if multiple years of rate adjustments are shown, there should be a recommendation on how many years of adjustments to adopt. If the utility is anticipating the issuance of bonds in the near future, adoption of a multiyear rate-phasing plan or schedule of rate adjustments should be considered to show the credit rating agencies a commitment by the regulators to raise rates to accommodate the new debt (future rate increases can be adjusted as appropriate when the rates are reviewed again). It is advisable to formally review revenue sufficiency at least every two or three years because the cost of service and needs of the utility may change. If no new debt is

anticipated, perhaps the rate recommendation would be to adopt only the rate increases required until the next periodic review.

In the absence of a rate study recommendation, the utility should consider automatically adjusting the rates for inflation and the pass-through of uncontrollable operating expenses. Many public utilities and public service commissions for the regulation of private utilities have incorporated automatic rate adjustment clauses in their authorizing resolutions, ordinances, or tariffs to enable rates to generally keep pace

of those utilities (i.e., the adopted or planned percentage increases). Other utilities are often experiencing some of the same issues and rate adjustment pressures.

After communicating the recommended revenue adjustments and rate activity of other utilities, a good next step is to show how the utility is projected to track against certain financial performance measures published by bond rating agencies or previously approved by regulators. The credit markets have significantly changed over the past few years, and the ability to attract new capital has

A continuing communication program can facilitate the education of regulators and their buy-in to the need to adjust rates for the long-term benefit of the utility business.

with inflation without the need for a formal public rate proceeding. The indexing approach is favored by credit rating agencies because such a clause provides the opportunity for the utility to maintain operating margins that may imply less risk of the utility defaulting on its debt payment obligations. In addition to the annual rate index provision, utilities should consider implementing pass-through adjustment clauses, which are especially relevant for those utilities that are full-requirement customers and receive 100% of their potable water and/or wastewater treatment service on a wholesale basis. These adjustments can also be used to recover increases in variable costs, such as power costs from electricity providers. Price index and pass-through rate adjustments generally represent minor rate increases but are important for preserving operating margins and overall revenue sufficiency over the long term.

If revenue increases are substantial but adjustments of similar magnitude have been adopted or planned neighboring utilities, it can be helpful to show the rate activity

become more difficult. Issuers are unable to purchase bond insurance and obtain a AAA rating; now the issuer rating is determined on its own merits (i.e., the issuer's underlying credit). For the utility to issue bonds for new capital improvements or to improve the overall debt structure, lenders are demanding that the issuer have solid financial credit, which requires a greater liquidity position, stronger operating margins and debt coverage ratios, and increased equity-based (pay-as-you-go) capital funding.

In today's credit market, the underlying creditworthiness of a utility will determine the interest rate that it can qualify for on a loan or the rate at which revenue bonds sell. A downgrade in the utility's credit rating can substantially add to borrowing costs, which results in higher annual debt payments and correspondingly greater rate increases. It should be a key objective for the utility to develop a financial plan that attempts to meet all financial targets recognized as prudent by rating agencies and regulators. This will keep utility rates lower over the long term. Multiple

factors are used by credit rating agencies in determining underlying creditworthiness, including management/administrative practices, system condition and compliance with environmental laws and regulations, service area demographics, coverage and financial performance, and charges/rate affordability. Recognizing the credit rating criteria, a utility should develop a financial and rate implementation plan that will minimize the likelihood of the rates and financial position negatively affecting the utility's rating.

According to the Water and Sewer Revenue Bond Rating Guidelines published by Fitch Ratings (2007):

For utilities in the most stable operating environments with a suitably diverse and healthy service area economy, 1.5x annual coverage, with consistently maintained unrestricted financial liquidity of at least 90 days of operating revenues, could be sufficient for "AA" or higher ratings. For utilities with substantial growth, compliance demands, or significant annual volatility in revenues or expenditures, greater financial flexibility may be necessary.

A 150% all-in debt-service coverage target (net revenues divided by senior plus subordinate lien debt service) is usually reasonable for most utilities and allows a certain amount of capital reinvestment from rates (e.g., pay-as-you-go capital funding) that can help achieve the utility rate guiding principle of having balanced debt risk and therefore keeping rates affordable over the long term.

Discussing the importance of maintaining financial creditworthiness with regulators while emphasizing that the utility has the long-term interests of its customers in mind is effective in helping regulators adopt a long-term perspective on keeping rates affordable. It is also beneficial to discuss—during the presentation—any steps the utility has taken to lower borrowing costs (e.g., reducing

the denominator of the debt-service coverage-equation). The financial plan needs to match the cost of the debt with the needs of the customer to minimize rates. The use of low-interest state revolving fund loan programs, lines of credit, commercial paper, qualified bank loans, and loans through agencies such as the US Department of Agriculture Rural Development (www.rurdev.usda.gov/Home.html) may be advantageous in structuring a capital funding program and its corresponding effect on rates. Another item worth communicating is whether the utility has applied for grant funding or has taken advantage of any available federal programs designed to lower municipal borrowing costs (e.g., during 2010, Build America Bonds were issued pursuant to the American Recovery and Reinvestment Act of 2009).

Table 2 and Figures 2 and 3 show how a utility is projected to perform against debt-service coverage and days cash-on-hand medians (half of the utilities are above the medians and half are below) published by Fitch Ratings (2010). All-in annual debt service coverage (excluding connection fees) is defined by Fitch Ratings as "current-year revenues available for debt service, excluding one-time revenues such as connection fees, divided by current-year total debt service." Days cash on hand is defined as "current unrestricted cash and investments plus any restricted cash and investments (if available for general system purposes), divided by operating expenditures minus depreciation, divided by 365" (Fitch Ratings, 2010).

These types of comparisons can indicate the following:

- The utility's projected debt-service coverage is within industry norms and is not excessive.
- The utility's unrestricted cash balances are not excessive. Regulators are sometimes reluctant to raise rates if they perceive that the utility has an overabundance of cash, although having cash does not necessarily mean that the utility is provid-

ing adequate debt-service coverage. If a utility has abundant cash but utility-backed debt coverage that is less than 100% (a "cash rich—coverage poor" situation that could possibly constitute a technical default of the rate covenant in the loan documents), debt-service payments can be made on an interim but not on a sustained basis.

- The publicly owned utility is proposing rates to meet revenue requirements only.

If the utility does appear to have excess cash, this situation may have arisen because of a deferral of capital projects that were anticipated to be funded by the existing rates, higher-than-expected sales volume resulting from weather conditions or higher-than-planned system growth, or other factors. An important presentation issue is to have the regulators understand the relationship of total cash and available cash for a system's needs. For example, funds appropriated to capital projects that have been subsequently delayed but are still viable represent a claim on cash and therefore should be restricted in use. Another common issue regarding cash balances is the proper segregation of funds. In many instances, utilities will earmark funds for debt-service payments or required reserves as a component of working capital, which may overstate cash availability. If the regulators do not understand these cash restrictions, they may incorrectly consider the utility system to be in an excess cash position and may disallow necessary rate increases requests. It is important to communicate to regulators the true cash liquidity position of the utility.

A sound asset management plan recognizes the placement of funds reserved for capital spending and major maintenance in restricted accounts. If the utility has cash reserves above financial target levels, possible financial solutions could be to retire some of the outstanding debt, lower rate increases in subsequent years (a form of rate stabiliza-

tion), or advance certain future-year capital and major maintenance spending programs.

The presenter may also want to show how the utility is projected to track against any other financial performance measures that might be considered important to the regulators.

Balancing proposed rates, rate comparisons, and customer effect. Numerous publications have discussed utility ratemaking and how it involves balancing potentially conflicting rate objectives such as revenue stability, fairness to each customer class, water conservation incentives, and affordability for low-income ratepayers. This article assumes that the design of the rate structure and the recommended rates would be acceptable to the regulators and the public.

In this part of the presentation, the rate increases expressed in dollar amounts can be communicated. Often the dollar amount of the rate increases sounds more palatable than percentages. For example, if a utility

charges \$1.00/1,000 gallons for potable water use, a 25% commodity rate increase would result in a \$0.25 per 1,000 gallons increase, which for a typical 6,000-gal/month customer would translate to a rate increase of \$0.05 per day. However, the percentages should still be communicated because the media covering the public proceedings will typically mention both the percentages and the dollar amounts of the rate increases. If the utility has not raised rates for an extended period, it can be a useful marketing tool to show the level of the existing rates if they had been annually increased for adjustments in the consumer price index (Figure 2).

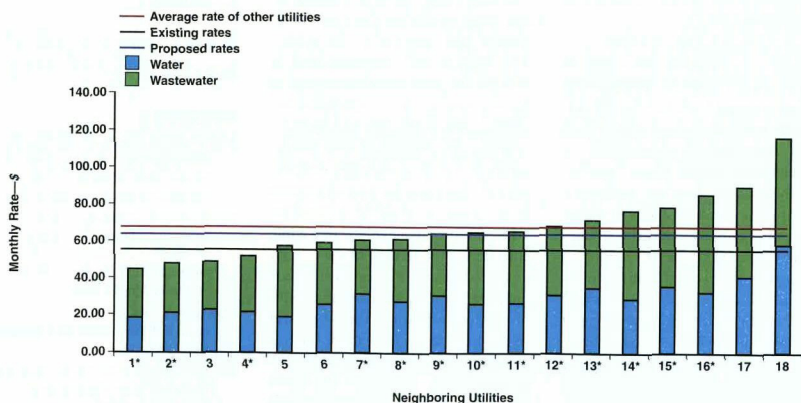
This presentation section could also include a combined water and wastewater rate comparison graph showing other utilities at average usage levels for a single-family residential customer in the utility system. The rate comparison is often a valuable selling tool; it can also be helpful to show the following on a comparison graph:

- Utilities involved in a rate study or planning to increase rates in the 12 months after the comparison preparation date. The proposed rates may remain or become more competitive over time as other utilities adjust their rates.

- Utilities having similar characteristics (e.g., utilities with reverse osmosis/more expensive treatment processes or, if water is received from a regional provider, other utilities that are customers of that regional provider). The proposed rates may be on the high end of the comparison graph, but may be in the range of what utilities with similar characteristics are charging.

The rate comparison in Figure 3 must be viewed with caution because every utility operates under a unique set of circumstances. Some of the reasons user rates differ among utilities can include: time elapsed since the last rate review; size of an existing customer base/available system growth; demographics (e.g., customers are

FIGURE 5 Comparison of 18 utilities' monthly charges for combined water and wastewater service for single-family residential customers using 6,000 gal/month



*Utilities involved in a rate study, planning to conduct a rate study, or implementing a rate revision or price index/pass-through adjustment within 12 months.

spread out versus close together [i.e., miles of pipeline per account], types of customers served; level of capital improvements to meet service area growth; source of water supply and treatment process costs; amount of needed R&R/age and remaining service life of assets; plant capacity utilization and assistance in funding of capacity (e.g., from grants, impact fees, developers); amount of general fund and administrative fee transfers; and (9) differences in bond covenants.

Utilities with low rates on the comparison graph are not necessarily outperforming their peers. If much of their treatment infrastructure was grant-funded or if their facilities have a freshwater source of supply instead of brackish water or saltwater as relied on by neighboring utilities, they may be able to offer lower rates because of their specific circumstances. However, it is also possible that the utilities with lower rates may not be properly funding or performing necessary renewals and replacements to the system, a situation that could result in more costly repairs and capital expenditures later. Their financial positions may also not be as favorable as those of utilities with higher rates because they may have different financial performance criteria.

A final step in this part of the presentation is to show the financial effect on the utility's customers at different usage levels to help the customers relate the rate increases with their own usage characteristics.

Requesting action. When concluding the presentation, it is imperative to request a direction and action plan from the regulators in order to continue or complete the rate adoption process. If the requested direction is not initially approved, the presenter must obtain a clear understanding of the remaining work needed to finalize the rate case. This may include redesigning proposed rates and associated customer-effect analyses, reevaluating the financial plan and suggested rate levels (alternative scenarios), requesting additional infor-

mation to support the rate case, continuing the rate case through public information programs, and fulfilling other directives as necessary. Not receiving direction from the regulators may postpone the ability to implement the requested rates and could affect the overall financial plan of the utility system.

After the presentation is completed, the discussion begins. As mentioned previously, it is a good idea to prepare "frequently asked questions" slides for after the presentation to address anticipated questions or concerns from the regulators. If a question is asked and there is an additional slide prepared for it, the presenter will appear even more prepared and professional.

CONCLUSION

For publicly owned water and wastewater utility systems, there is no "one size fits all" methodology when developing and presenting a strong utility rate case. Each utility has a unique set of circumstances and a different story to tell. However, the authors hope that this article will provide guidance, strategies, and ideas on strengthening rate cases and improving the probability that the proposed rates would be adopted by the regulators without material change and accepted by the public. The approaches communicated in this article have been successful in having rate increases approved for utilities of various sizes and types.

If the recommended rate adjustments are based on suitable rate-making principles and are part of a sound financial plan to keep the utility operationally and financially viable while considering the welfare of the utility's customers and the rates are not approved by the regulators, then public records will show that the valid recommendations were made but not enacted. Adopting rates based on need produces the lowest rates over the long term because the ratemaking process is proactive versus reactive. The long-term ramifications of not adopting needed rate adjustments

developed through a sound rate case process is that rates in the future are most likely to be even higher for the ratepayers. It is therefore critical for regulators to embrace a long-term perspective when making their decisions on utility rates as the representatives of the utility customers and as the overseers of the utility business.

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Date of submission: 07/04/2010

Date of acceptance: 03/26/2011

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Utility rates and the political environment

Bryan A. Mantz and Robert J. Ori

For publicly owned water and wastewater systems, there is never a right time to request an increase in utility rates. This situation is especially true in today's environment because of the lingering downturn in the economy and amplified political pressure to minimize or limit rate increases. However, the need to raise rates is becoming more critical because of the increasing scarcity of new water resources, more stringent regulations for utility services, and the

greater need for capital reinvestment for renewals and replacements. Utility managers should realize that the ability to adjust rates has become more dependent on a multifaceted process as opposed to simply presenting the utility's rate case at a public meeting. This article presents approaches and strategies that have been successfully used by utility management teams to present the need for rate increases for the long-term benefit of the utility stakeholders.



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Is syndromic surveillance of OTC drug sales effective in detecting outbreaks of waterborne GI disease?

Michelle L. Kirian and June M. Weintraub

Reports following waterborne disease outbreaks such as the 1996 cryptosporidiosis outbreak in Milwaukee, Wis., suggested that sales of over-the-counter (OTC) drugs could provide an early indication of waterborne disease. As a result, many health departments implemented syndromic surveillance of OTC drug sales.

The authors evaluated the ability of OTC diarrheal remedy sales to predict gastrointestinal (GI) disease. No significant correlations were identified between weekly sales and case counts, outbreak counts, or number of outbreak-associated cases. Signals

generated by the medication sales model did not coincide with outbreak weeks more reliably than signals chosen randomly.

Although not tested with large outbreaks, this work does not support the use of syndromic surveillance for GI disease with OTC remedy sales. Given study results and the lack of compelling evidence in the literature of an association between drug sales and diarrheal illness, water agencies and health authorities may want to focus on other potential monitoring activities for early indication of waterborne disease.



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Polishing effluent from a perchlorate-reducing anaerobic biological contactor

Nicholas R. Dugan, Daniel J. Williams, Maria Meyer, Ross R. Schneider, Thomas F. Speth, Keith C. Kelty, and Deborah H. Metz

The quality of anaerobic biological contactor effluent can be improved significantly using mature technologies (aeration, hydrogen peroxide addition, ultrafiltration membrane filtration, dual-media filtration) commonly used in drinking water treatment. This study was undertaken to provide a more detailed understanding of the treatment and water quality issues associated with the polishing of anaerobic contactor effluents and evaluate the effect of temperature on polishing system performance.

Information presented here might be used to inform the design and operation of pilot-scale treatment studies for the removal of perchlorate should the regulatory environment ever force changes to a utility's existing treatment system. This article, along with the other articles on perchlorate biological treatment and effluent polishing that are cited in the introduction, forms a preliminary body of evidence indicating that perchlorate can be treated in anaerobic biological contactors and that the quality of the contactor effluents can be improved.



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