WHITE PAPER

AMERICAN WATER

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# Challenges In The Water Industry: The Rate Approval Process

It is fair to say that most Americans seldom give more than a passing thought to the value of the water that comes out of the faucets in their homes. Those who receive a bill from the local water utility – whether it is a municipal system or an investor-owned company – generally pay the bill without considering where the water comes from, or how it is treated and delivered to their homes. People who live in rentals or belong to homeowner associations may never see a bill at all, since water charges are often part of their monthly rent. But even when paid directly, the water bill is typically far less than the fees the cable company imposes for viewing "free" television programming, less than the cost of telephone service or high-speed internet access and, certainly, less than electricity.

In the U.S., the Environmental Protection Agency (EPA) sets the water quality standards that all water utilities must meet. However, for investor-owned water and wastewater companies, state economic regulatory agencies will generally regulate the price for the service provided by the water utility. In most communities, this regulation has resulted in permitting utilities to charge water rates equivalent to less than a penny per gallon.

The objective of this White Paper is to explain how investor-owned utilities make a case for rate adjustments, surmount hurdles to obtain permission to change rates, and benefit customers by operating in a highly regulated environment. For simplicity, although known by different names, this paper will refer to governing regulatory agencies as PUCs, short for Public Utility Commissions.

## BACKGROUND

Water utilities were among America's first publicly traded equities. The Manhattan Company – later to become the Chase Manhattan Bank – operated the first water system in New York City. In 1800 there were 16 water systems in the entire country, and 15 of them were investor-owned. By 1896, that number had

increased to nearly 3,200, and just under half were investor-owned systems. Today there are about 53,000 community water systems, and while 30,000 of these are investor- owned, they serve only about 15 percent of the population. The 23,000 governmentally-owned systems or individual private wells serve the remaining population which is always changing.

As regulated public utilities, investor-owned water companies have been granted authority by each state's PUC to operate in a particular service area. Within these areas, the utility generally experiences some protection from the competition of other water service providers. In exchange, the utility must provide quality, reliable and non-discriminatory service to all customers in the service area. The utility is also entitled to the opportunity to earn a reasonable return on prudently invested capital necessary to provide service and to recover operating expenses.

Over the years what constitutes a "reasonable" or "allowed return" on "prudent and reasonable" investments has been extensively litigated. While there are significant issues specific to individual proceedings, settled law can be summarized as follows:

- Water utilities are permitted to charge rates that have the potential to generate an "allowed return" that is sufficient to attract capital at reasonable rates. A company is not "guaranteed" any return; whether it earns an allowed return depends on how efficiently the company is run and/or whether the PUC allows recovery of reasonable operating expenses and other factors. There is no regulatory "guarantee" that a poorly run company will earn its "allowed" rate of return.

- A company is entitled to the opportunity to earn a return only on invested capital that is prudent and reasonable as well as used and useful in providing service to customers. Like other investor-owned companies, a return of capital is made to a utility's shareholders.

## WHAT IS A WATER RATE CASE?

The process by which state regulators determine how much individual residents, commercial establishments and industrial customers will pay for their water service is known as a "rate case." In order to comply with "due process" provisions of the U.S. and state constitutions, a system has been developed over the years giving a utility the right to present its rate case in a public forum. This process also gives consumers and other interested parties the right to challenge those requests. A schedule of public hearings is created that allows the public to participate in the process. The utility is required to support its requests by meeting certain evidentiary standards. During the hearing process, the utility is subject to cross examination and evidence presented in the proceeding can be challenged on a number of grounds.

The typical Water Rate Case process involves the following players:

- The utility

- The public, including individual consumers, consumer advocates, local government representatives, public interest groups and other interested parties

- The state public utility commission and its staff

During the process, requests for rate increases undergo an extremely thorough examination involving all of these entities. Rate requests are subject to tests and challenges at every step of the way.

## INVESTED CAPITAL

A fundamental principle of establishing water rates is that the rates should be based on the *actual or projected costs of providing service*. Utilities have the right to recover prudent and reasonable operating expenses and, assuming an efficient operation, to earn a fair return on invested capital.

The amount of this return goes to the core of each rate case proceeding. Experts are called by both sides to testify as to what is fair and reasonable. Attorneys debate the applicability of prior rulings by the Supreme Court of the United States. In general, these high court decisions have established that the rate of return to the equity owner should be comparable to returns on investments in other enterprises having similar risks and that they are sufficient to maintain the utility's credit and attract necessary capital at reasonable rates. A utility comes prepared to address issues, such as risk, as they pertain to the company. When all is said and done, the proceedings should establish rates that meet these constitutional standards.

The invested capital upon which the utility should be allowed the opportunity to earn a fair return generally consists of the depreciated original cost (book value) of the plant investment, also known as the "rate base." The rate base decreases each year as a result of depreciation, however, yearly capital investments can also increase the rate base. Generally, rates do not change each year as a result of annual additions or reductions in the rate base. Rather, the rate base, revenue requirements and rates associated with it will be updated when the utility files for a rate increase. Exceptions to this process do exist, such as in states that allow surcharges outside the context of a general rate proceeding for replacement of aging infrastructure or for the investment necessary to comply with new water quality standards.

It is of interest that the process investor-owned utilities go through to establish rates is usually significantly different from the one a municipal or governmental water system experiences. In most states, government-owned water utilities generally set their own rates and do not have to go through a state PUC approval process. One result of this is that local politics often has a bearing on water rates. Political leaders are sometimes reluctant to increase rates as doing so may be unpopular with voters. Thus, needed but costly infrastructure repairs may be postponed or avoided in order to keep rates low. Meanwhile, state PUC regulation of investor-owned utilities helps promote necessary infrastructure investment, rehabilitation and/or replacement, and maintenance. It does so not only by enforcing the utility's obligation to provide safe and reliable service, but also by setting rates that cover the costs of providing that service, including a fair return on invested capital.

## DETERMINING THE RATE OF RETURN

In order to be consistent with provisions of the U.S. Constitution that prohibit confiscation of property without "due process" and fair compensation, the Supreme Court of the U.S. has established that utility shareholders are entitled to a fair return on prudently invested capital for assets that are "used and useful" in providing service to customers. The two primary U.S. Supreme Court cases that established this principle are Bluefield Water Works vs. the Public Service Commission of West Virginia ("Bluefield") (1923), and the Federal Power Commission vs. Hope Natural Gas Company (1944).

In Bluefield, the Supreme Court stated that a regulated utility:

> "…is entitled to such rates as will permit it to earn a return on the value of the property which it employs . . . equal to that generally being made . . . on investments in other business undertakings which are attended by corresponding risks and uncertainties.
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> Allowed returns should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and

> support its credit and enable it to raise money necessary for the proper discharge of its public duties."

These and numerous other state and federal cases, as well as other state statutory provisions establish that shareholders are entitled to a fair return on invested capital for assets that are "used and useful" in providing service.

The rates eventually established by state PUCs should be sufficient to enable a well-run utility to earn a return that reflects the cost of providing service to its customers. The rates will cover the acquisition and maintenance of assets that are required to provide service, which include the operating costs plus a return from capital expenditures for plant equipment and other items that are "used and useful." The utility is also subject to real estate and other business taxes, and shareholders must pay income taxes on the returns they receive. Therefore, in order to provide the opportunity to actually earn the return the PUC determines is appropriate, the PUC will typically include in the revenue requirement an amount sufficient to cover these taxes.

## THE ROLE OF RISK

As the U.S. Supreme Court stated in the Bluefield case, a utility is entitled to earn a return comparable to investments in other business undertakings which are attended by similar risks and uncertainties. Estimation of risk, therefore, is a critical element for consideration in establishing a reasonable return. PUCs typically utilize a number of different methodologies for estimating risk and the appropriate allowed return. These methods may include Discounted Cash Flow (DCF) Analysis, Risk Positioning Models, such as the Risk Premium method and the Capital Asset Pricing Model (CAPM), or other comparable earning methodologies. Each of these methodologies will have variations and some of them utilize betas as an estimation of industry-wide risk. In estimating risk and determining allowed returns, PUCs will also look at the specific circumstances of each company, such as legal risks from potential tort claims, specific operating factors and the condition of infrastructure.

Risk factors will change over time and, to some extent, determine the frequency of rate case filings. Other factors that can influence risk assessments include inflation, market changes and new water quality standards.

## THE TEST YEAR

PUCs typically set rates based on capital investment, operation and maintenance expense data from a particular period of time. Usually this data covers a 12-month period known as the *Test Year*. The PUC may utilize a historic, current, or future test year. Historic test years utilize actual expenses through a relevant period prior to filing the rate case. Current test years may use a combination of historic data and changes that occur either during the rate case or "known" and "measurable" data that occur right after the rate case. Future test years allow consideration of projected capital expenditures and expenses over some future period, usually 2-3 years.

In times of rising levels of infrastructure investment and expenses, use of historic test years can impact both the frequency of rate cases and the ability of the utility to actually earn the return the PUC allows because historic test years do not consider changes that occur during the rate case or thereafter. Therefore, more frequent rate cases are necessary to account for such changes. That is why, in practice, many PUCs often utilize some combination of historical, known and measurable and forecasted data. The effects of using less current information in test years can also be mitigated through the use of automatic adjustment mechanisms, surcharges for infrastructure replacement and special projects, and other ratemaking tools.

## CONCLUSION

The rate case process is designed to protect the interests of customers while at the same time allowing water utilities the opportunity to recover reasonable operating expenses and to earn a fair return on the invested capital necessary to provide reliable service to customers.

While it may often seem cumbersome and time consuming, the water rate case process remains one of the strongest assets of the investor-owned water utility. Established law provides that a well-run company should be able to obtain a reasonable rate of return on its invested capital and recovery of reasonable operating expenses. This gives investors the comfort of knowing that if the company delivers its product reliably and consistently, it offers a stable investment opportunity. The traditional regulatory structure provides that while utilities cannot choose whom they will serve in their franchise area, if they do a good job they should have the opportunity to earn a fair return on investment.

# SIDEBARS:

***SIDEBAR***

**THE WATER UTILITY EQUATION**

**The states confer**:

- Monopoly status to a water utility that serves the public interest and, despite lack of competition, can benefit consumers through economies of scale and operating efficiency. State PUCs protect the monopoly status through enforcement of "first in the field" rights by granting the utility the right to charge prudent and reasonable rates.

**In exchange for:**

- The utility's obligation to serve the public and be subject to regulation of rates, conditions of services, and other restrictions.

***SIDEBAR***

**THE ESSENCE OF INVESTOR-OWNED UTILITY WATER RATE CASES**

The rate setting process is designed to fairly balance the interests of customers and shareholders and to meet the overall public interest.

- Well-run businesses are granted a franchise to operate without fear of confiscation or discrimination.
- It establishes rates and conditions of service.
- It allows feedback from consumers and others.
- It provides a forum for approval of the sale of utility assets/change of control and of significant financial transactions, new plant construction and business relationships.
- The process is also used to enforce service obligations and monopoly rights, enact rules and regulations with the force of law and establish procedures for such things as service initiation or cut off, billing and collection standards, handling complaints and maintaining service levels.
- All these actions are generally accomplished through an open public hearing process or through rulemaking.
- The process provides for legal appeal rights based on evidence and testimony admitted into the record of the proceedings.

***SIDEBAR***

**WHAT IS A TEST YEAR?**

State PUCs generally select a Test Year that, in theory, is the 12-month period that is most relevant to the period during which the rates are likely to be in effect. Utilities often have a choice of selecting a historic, current or future test year, although the choice is mandated in some states.

- The utility uses the Test Year to project revenues and expenses for a future period of time following the effective date of the PUC order. In a Water Rate Case this is usually 12-18 months.
- Rates can be based on the following data:
    - Historic Test Year
        - Uses actual revenues and expense data from some recent 12-month period prior to filing the rate case. In some cases, it may be adjusted for certain projected "known and measurable" changes.
    - Current Test Year
        - Uses some combination of historic data, actual results occurring during the rate proceeding and "known and measurable" changes.
    - Future Test Year
        - Projection based on operating expense and investment forecasts.

***SIDEBAR***

**THE BASIS OF RATE DETERMINATION**

Rates set by state PUCs according to traditional rate base/rate of return policies. Rates reflect both historic and/or future costs. Operating Costs are passed through. State PUCs recognize the ability to capitalize costs and provide an Allowance for Funds Used During Construction (AFUDC). Regulatory initiatives are considered, such as Phase-In plans, Distribution System Improvement Charge (DSIC), single-tariff pricing and surcharges for the costs of meeting new quality standards.

The rate increase calculation:

- Determine the utility's Rate Base.
- Determine the utility's Rate of Return. What should the company earn?
- Compute allowed Operating Income. Rate Base X Rate of Return.
- Gross-up deficiency to allow for the payment of taxes.

***SIDEBAR***

**THE UTILITY REVENUE REQUIREMENT**

**The PUC grants rates based on a determination of the utility's revenue requirement:**

- Revenue Requirement Equals:
    - Return on invested capital in assets that are used and useful in providing service to customers, including revenue requirements associated with interest on debt, dividends on preferred stock and allowed return on equity/rate base.

      **~ PLUS ~**

    - Prudent and reasonable operation and maintenance expenses.

**Return on Equity/Rate Base:**

- Return on Equity:
    - The PUC determines rate of return the utility will be allowed the opportunity to earn on rate base.
    - Allowed equity return should be comparable to returns earned by companies with similar risk and sufficient to attract capital at reasonable rates.
- Rate Base:
    - Usually, the allowed return is applied to depreciated original cost rate base, which does not include contributed plant or capital.
    - Some states apply the allowed return to "fair value" rate base, but in practice, adjustments are usually made that result in the depreciated original cost revenue requirement being not substantially different from a "fair value" revenue requirement.

Revenue associated with required equity returns on rate base is grossed up for federal/state income tax requirements.

***SIDEBAR***

**THE WATER RATE CASE PROCESS**

- Notice to the Public
- Filing of Application/Petition, Testimony and Evidence (company)
- Intervention by Interested Parties
- Discovery/Data Requests/Responses (timing can be short)
- Testimony and Evidence – Staff and Interveners
- Rebuttal Testimony (all parties)
- Surrebuttal (all parties)
- Evidentiary Hearing – Cross Examination (all parties)
- Other Public Customer Input Hearings
- Briefing (initial and reply)
- Administrative Law Judge Proposed Order
- Responses to Proposed Order (all parties)
- Final Order Submission
- Vote of Commission
- Petitions for Rehearing (before Commission)
- Responses to Petitions for Rehearing
- Commission Vote on Petitions for Rehearing
- Appeal to Courts (Appellate, Supreme Court)

The above process, and the time necessary to accomplish it, will vary from state to state, and with the type of proceeding involved. In some states, all or most of the above may occur for ratemaking or acquisition proceedings. Time periods can extend from 2-3 months to a year or more.