

Regulation

The U.S. regulatory experience with emphasis on water regulation

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RESUMEN: En general la regulación puede ser definida como el control sobre las obligaciones y derechos contratados entre los variados agentes reguladores de gobierno, permitiendo al servicio operar como un monopolio natural en un supuesto ambiente competitivo. Este control es para los propósitos de proveer a los usuarios, el público, con ambos los beneficios que de otra manera serían obtenidos por la competencia, y, las eficiencias de permitir que el monopolio opere.

El principal objeto de la regulación es la fijación de tarifas. El regulador fija las tarifas y cargos que el prestador de servicios puede cobrar a los consumidores, definir las prestaciones que los servicios públicos (compañías) deben proveer a sus usuarios tales como la calidad del agua y la presión del agua entregada, definir el sistema contable que debe ser utilizado en el registro de la información y transacciones financieras y de regulación, autorizar empresas de holding y permitir a los servicios diversificarse en actividades no reguladas.

PALABRAS-CLAVE: Experiencia de Estados Unidos, regulación de servicios de agua, rol, costos, tarifas y calidad de los servicios

ABSTRACT: In general, regulation can be defined as control over the obligation and rights contracted between and the various governmental regulatory agencies allowing the utility to operate as a natural monopoly in an otherwise competitive environment. This control is for the purpose of providing the customers, the public, with both the benefits that would otherwise be achieved by the competition and the efficiencies of allowing a monopoly to operate.

The principal purpose of regulation is to set rates. Regulators set the rates and charges the public utilities may bill their customers, define the services the public utilities (companies) must provide their customers such as the quality of water provided and pressure of the water delivered, prescribe the accounting systems that must be utilized in the recording of the companies regulatory and financial data and transactions, authorize external financing and regulate or approve changes in corporate structure, such as authorizing holding companies and allowing utilities to diversify into nonregulated activities.

KEY-WORDS: US experience, water services regulation, role, costs, rates and quality of services.

HISTORY OF PUBLIC UTILITY REGULATION IN THE U.S.¹

As I noted above, the main goal of the regulator is to establish rates, fair and equitable rates, and the avoidance of unreasonable discrimination, that being rates should be based on cost unless there is some overriding soci-

etal need such as “lifeline water rates” for lower income customers.²

¹ Much of this material was taken from “Accounting for Public Utilities”, Hahne, Aliff and Deloitte & Touche LLP, the balance from this author’s 38 years’ experience as a regulator.

² Sound economic theory suggests that rates should be based on cost. While this goal is laudable in a competitive environment, it isn’t necessarily so in a regulated, monopolistic one. Societal goals, such as providing lifeline telephone, energy and water services for the economically challenged and the provision of telecommunications devices for the deaf and disabled are all services that governmental and regulatory

There were five distinct stages in the development of utility regulation. They are:

- a. Judicial regulation;
- b. Legislative regulation;
- c. Municipal franchises
- d. State regulation; and
- e. Federal regulation.

Judicial Regulation

Judicial regulation represents the earliest and, at one time, the only form of regulation over public utilities. Judicial regulation is the enforcement of consumers' or customers', common law rights to adequate service at reasonable rates through the process of litigation. In the earliest stages of regulation, this was the only avenue of relief for customers since no specific bodies existed for the express purpose of regulating monopolies.

The judicial process of regulation proved to be ineffective for several reasons. The large cost and inherent delays associated with lawsuits made such action prohibitive for the typical customer (or ratepayer). Furthermore, judges were not knowledgeable in the various areas of utility regulation. Utilities required continuing regulation and constant oversight (They still do!), and the courts simply were not equipped to perform this function. Equally important, determination of the rates that were just and reasonable was considered to be a legislative function rather than a judicial function. The courts' function was to determine the legality of rates and charges, not to set them. That continues to be the courts' role today.

Early in the development of the utility industry, it became readily apparent that more

efficient forms of regulation were necessary. Consumers and utilities alike soon turned to local and state governments for resolution of this problem.

Legislative Regulation

After judicial regulation control generally took the form of special state laws concerning incorporation of utility companies similar to the incorporation of other business entities. These corporate charters granted utilities the same corporate rights and obligations as other companies. The state laws also contained special provisions of a promotional nature, including tax exemptions, the power of eminent domain, and the right to use public land and streets for utility operations.

Monopoly status was not granted by the state legislatures, the general view at the time being that competition among utilities would, in itself, perform much of the regulatory role. The only unique form of regulation incorporated into the utilities' charters involved the regulation of rates. These rate provisions were generally quite lenient and usually only prescribed ceiling or maximum rates that could be charged for utility services.

As was the case with judicial regulation, legislative regulation was soon found to be unsatisfactory. This form of regulation failed for several reasons. First, state laws were necessary general in nature and not tailored to the specific circumstances encountered in the various local communities. Since utilities remained largely local in operation, especially water utilities, this form of regulation could not effectively deal with the special problems faced by the utilities and their customers. Second, as utilities began to grow in size and technology, individual state charter terms and conditions were found to be rigid and inflexible. Charter terms that had once been promotional in nature were beginning to restrict the growth of the utility industry. Utilities simply grew beyond the original charter areas as population grew. Finally, as was the case for judicial regulation, no specific body had been created to monitor public utilities on a continuous basis. As a consequence, expertise in the regulation of utilities had not developed, and both customers and utilities suffered for the lack of a

bodies, both federal and state have deemed important and necessary. These services by their nature are provided at less than cost; therefore, some other rates must be priced higher than cost. In addition, traditionally rates for residential customers of utility services have been priced somewhat lower than cost as regulatory bodies recognized that politically this deviation from cost equal to rates was a path of least resistance. With the advent of competition in the telecommunications industry regulators began moving rates closer to cost to allow an level playing field for all the participants.

concerted effort to regulate utility operations on an ongoing basis.

Municipal Franchises

This was the first significant form of control over public utilities. This form of control evolved in the late nineteenth century after the failure of the judicial and legislative approaches. A municipal franchise is a municipal law or ordinance representing a contract between a governmental entity (such as a city, or township) and a utility, which grants special privileges to the utility in return for the latter's agreement to allow the municipal government to regulate rates, service, taxes, facilities and their extensions into new territory. In other words, the utility is granted a license to operate as a near monopoly and, in exchange, agrees to be regulated so as to allow consumers the benefits (reasonable rates, reasonable service, and the like) of competition. This form of regulation not only recognized the need to regulate utilities at the local level of operation but also was the first form to recognize the advantages of monopolistic public utility operation.

The municipal franchise became the dominant form of regulation until the early part of the twentieth century. By the 1920s, however, the utility industry began to experience rapid growth, and operations quickly expanded beyond local geographic areas. As a result, there was a shift toward state and federal regulation. Usually, the state replaced the local franchise with a Certificate of Public Convenience and Necessity, a "CPCN", granted by the state, so that the local franchise became little more than a permit to use public property in the local community. Most utilities continue to pay the local jurisdictions a franchise fee.

There are several interrelated reasons why the municipal franchise form of regulation generally disappeared by the late 1920s. As previously note, improvement in technology allowed utility companies to expand rapidly, and it soon became clear to local governments and utility customers that one large utility operated more efficiently than several smaller local ones. As a result, many local utilities merged, with each area continuing to regulate

the growing utility through its individual municipal franchise. Under these conditions establishing uniform rates and standards of service for utilities, which was difficult at first, soon became virtually impossible. Public utilities could not continue to operate under the multitude of varying local regulations and provide reasonable service in an efficient manner.

It should be noted that the municipal franchise form of regulation still exists to some degree today. This is especially true for utility services that never expanded beyond the local jurisdiction, and is true for many water companies and sewerage operation and local transportation companies.

State Regulation

Since the late 1920s, two major levels of utility regulation have existed – jurisdictional state commissions and the federal government. Although the timing of the development of these regulatory functions overlaps to some degree, effective utility regulation generally began at the state level.

The development of the various state public commissions (the regulatory bodies established by state law to regulate utilities) can be divided into four distinct phases:

- (1) the weak commissions;
- (2) the post –Civil War commissions (after 1865);
- (3) the real authority commissions; and
- (4) the modern era commissions.

Weak Commissions

The so-called weak commissions existed during the period from the late 1830s to the 1870s. State commissions were first established as early as 1839 in Rhode Island, 1844 in New Hampshire, 1853 in Connecticut, and 1858 in the state of Maine. These early commissions had no real authority to regulate utilities and can best be described as "token" commissions. The only real regulation considered necessary involved control over the railroad operations – the first utility industry to develop to any great degree – and even here there was no control over utility rates.

The early utility commissions were usually organized to perform specific functions. These activities included enforcing safety laws and other state statutes, providing a statistics and other information to state legislatures and assisting legislative bodies as requested.

Post-Civil War Commissions

The post-Civil War commissions came into existence in the late 1870s as the result of strong public criticism of the utility industry, particularly of the railroads, which was commonly characterized by high rates, poor service, and discrimination among customer classes. Not surprising, these commission were called “railroad commissions”. The greatest concentration of public reaction was in the Midwestern United States, where railroads were extremely important to the economic development of the area. During the period from 1871 to 1874, the legislatures in Illinois, Minnesota and Wisconsin established very strong commissions with significant control over the rates charged by utilities.

In 1877, the U.S. Supreme Court decided one of the most important cases regarding state regulation over public utilities. In *Munn v. Illinois*, the Supreme Court upheld the constitutionality of state laws that provided for regulation of public utilities by means of by means of state public utility commissions. This decision probably was the single most important factor in the development of strong state regulatory commissions.

As a consequence of the *Munn v. Illinois* decision and the continuation of strong state commissions, the utility industry (particularly the railroads) experienced a tremendous downturn in expansion and growth. As this downturn continued over the next several years, the public began to realize that economic growth in the years immediately following the Civil War necessarily required expanding utility services. This realization forced many states to repeal their strong “Granger” legislation during the late 1880s, thereby causing a resurgence of the railroad boom and continued growth in other utility industries.

Real Authority Commissions

By the early 1900s, the expansion of utility companies beyond the control of local fran-

chises led to widespread demands for broader state regulation. In 1907, New York and Wisconsin established the first state commission recognized to have real authority. These commissions served as structural models for many other states. By 1913, 28 states (including California) actually had some form of utility commission, the majority of which were significantly different in structure form the earlier railroad commissions. By 1930, all existing states, with the exception of Delaware, had established some form of a state public utility commission.

The 1920s were the most important period for the development of the “real authority commissions”. Regulation expanded well beyond railroads as the authority to regulate electric, natural gas, and telephone and telegraph operations was exercised by most state legislatures. Many states ignored water and sewerage regulation, leaving that to the local municipal franchise grantors. But by the late 1920s, many utilities had, in fact, become such corporate giants that they were often felt to be beyond the sole control of even the effective state regulatory bodies. In response to this public feeling, many commissions began to see their role more as public defenders and protectors of consumer interest, as opposed to regulatory bodies weighing the arguments of both utilities and their customers.

Modern Era Commissions

The real authority commissions began to transform into the modern era commissions during the early 1930s. By that time, most state legislatures had created the basic utility regulatory structure that exists today. The regulatory commissions were developing the expertise and experience needed for effective regulation of intrastate public utility operations.

The modern-day state public utility commissions necessarily vary from state to state in several different respects. The more obvious differences include the following:

- (a) *Title of the regulatory body* – The names of the various regulatory bodies vary from state to state. Typical titles are Public Utilities Commission, Public Service Commission, and Corporation Commission

- (b) *Size of the commission and its staff* – The state commission vary as to the number of commissioners and the size and expertise of the staffs.
- (c) *Extent of regulatory authority* – The authority of the various state commissions to regulate public utility operations also varies from state to state. With the exception of rate regulation, a commission's specific authority largely depends on the regulatory powers authorized by the respective state legislatures (who can sometimes be lobbied by special interest groups) or granted through the judicial process.
- (d) *Extent of authority in other state matters* – Many state utility commissions possess authority and responsibility beyond the direct regulation of public utility operations. For example, many commissions serve as the corporate licensing body for all corporations that seek to incorporate in that state.

These differences make it clear that any attempt to describe the structure, composition and authority of modern state commissions must be dealt with in very general terms. In this regard, the "typical" commission can be characterized as an appointed or elected semi judicial administrative body which:

- (A) establishes utility rates, charges, service and safety,
- (B) prescribes the manner of accounting for operations, and
- (C) controls various aspects of financing, within the powers granted by the respective state legislatures.
- (D) has been reorganized a number of times in the past 20 years.

The commission's orders are subject to judicial review (in some states, the state supreme court) to ensure that they conform to both state and federal constitutions and utility-related statutes. In actual practice, the modern state utility commission performs legislative, judicial and administrative functions. It acts as a legislative body through the process of issuing rules and regulations for governing utility operations. It acts as a judicial body when it hears cases on rate applications, customer's

complaints and renders binding decisions on all parties (subject to review by the courts in matter of the law). Finally, the commission also functions as an administrative body when it monitors the utilities' activities to determine compliance with commission rules, regulations and orders. For example a commission might find that a water utility is not reading its water meters as specified in its tariffs even though the cost of reading meters is a legitimate operating cost properly included in rates.

The typical commission consists of one to seven commissioners. Most states have three. Commissioners' terms range from four to ten years. Commissioners are appointed by the governor or in some states elected at large. Commission staffs vary in size and expertise, as well as in their specific functions and duties. Generally those states with the larger staffs do a better job of regulation. Commissions receive their operating funds from their respective state budgets, although some are funded by a utility user's fee, a percentage of the monthly bill.

The typical state utility commission directly regulates natural gas operations, retail electric sales, telephone rate and water rates within the state. With the advent of "deregulation of electric power", some states are no longer treating power providers as monopolies. This new regulation has working states with an abundance of power, but was a disaster in California.

Many regulatory commissions have reorganized to put an increased emphasis on consumer protection and consumer or ratepayer advocacy with in essence two staffs, one that advises the commission and one that advocates on behalf of the customers in rate proceedings. In addition there are now independently operated public interest groups representing "all ratepayers" or special interest groups. Some of these groups receive their funding from the commissions by way of the utility involved in the rate proceeding. Others are state funded, and some receive monies to operate via donations. These special interest ratepayer groups sometimes provide the commissions with additional facts with which to make a better decision.

As regulation evolved as we know it today, checks and balances, also developed. In all states, the orders of the Commission can be

appealed to local appellate courts and in some case only to the states' Supreme Court. Even within the regulatory bodies, there exists a process to review Commissions' decisions that have been appealed by the utilities.

Some states have strong Commissions, well funded and staffed, while other states do not. Typically the states with the larger staffs are more pro-active in their regulatory efforts to protect the consumers. Regulation is not "cheap"! There are costs to provide consumer protection to all customers. Who ultimately decides how much of a state's budget should be devoted to regulation. That is the responsibility generally of the state legislature and the governor of the state. Some states believe a strong regulatory commission is important to the ratepayers of the state, others don't.

Federal Regulation

In General

Federal regulation of public utilities has evolved over an even longer period of time than its state counterpart. Although state regulation has changed with revisions in state laws and changes in commission philosophy, the basic structure of the state commissions have remained stable since the 1930s. The major concern of state regulators have continually centered around rate-making philosophy and techniques, and their respective effects on other areas, such as accounting, customer service and corporate expansion.

On the other hand, federal regulation of utilities has been much more volatile. Regulatory bodies have been created and reorganized again and again in a continuous attempt to control more effectively what Congress has, from time to time felt required regulation. Federal laws have been passed and amended in efforts both to cope with changes in the economic environment and to develop a national energy policy. The U.S. Supreme Court has been a particularly strong force in determining the extent to which the federal government may exercise its powers over utility operations. In general, the Court has upheld increased authority and scope of regulation by the federal government, and not always to the states' liking.

Federal regulation of public utilities actually began as a means of regulating only where regulation could not be provided by the states due to the interstate nature of the utility operations. The incidence of these situations tended to increase as utilities grew beyond state boundaries, similar to the situation encountered by municipal regulatory bodies when they were forced to look to the states for effective intrastate regulation.

The existence of a growing "regulatory gap" resulting from the continued movement of utilities into interstate commerce was exemplified by two important Supreme Court decisions in the 1920s. In 1924, in *Missouri v. Kansas City Natural Gas*, the Supreme Court held that a state could not regulate rates charged for natural gas that was produced in one state and transported to another state for sale at wholesale to local gas distributing companies. In 1927, in a similar case involving electric operations, the Supreme Court ruled that a state commission could not regulate the wholesale rate of electricity sold at the state line to another utility for the sole purpose of distribution and resale to customers in the adjoining state.

These two Supreme Court decisions served as a further catalyst to the growing recognition of a need for greater federal regulation over interstate utility operations. Over time, there was a growing tendency by the federal government to assume jurisdiction on all regulatory matters not specifically delegated to the states. By the 1930s, federal regulation was extending into all areas of interstate utility operations (railroads, electric power, natural gas, telephone and telegraph-not water yet) with the New Deal period witnessing the large scale entry of the federal government into the field of public utility regulation. The utility industry had "burst the bounds of state lines".

Today, the federal government is directly involved in the regulation of various utility operations. These include:

- (a) the interstate transmission and wholesale of electric power;
- (b) the interstate transportation and wholesale sale of natural gas;

- (c) interstate long-distance telephone and telegraph services (although telegraph services are few these days):
- (d) the Clean Water Acts.³

The regulation of these utility activities is delegated largely to four federal agencies:

- (1) the Federal Energy Regulatory Commission (FERC);
- (2) the Federal Communications Commission (FCC);
- (3) the Securities and Exchange Commission (SEC); and
- (4) the U.S. Environmental Protection Agency (USEPA).

Advantages and Disadvantages of Regulatory Authority at Different Levels of Government

In theory, local controls seems appealing to most ratepayers. However, over time, in most cases, the level of regulatory and technical expertise frequently was found wanting. Many states have extremely competent and knowledge staffs, that in effect provide the expertise that the cities lack in their review of the utilities operations. One state regulatory is more efficient that hundreds of local regulatory bodies.

In many areas of regulation the federal government has usurped the states on matters of "federal importance", e.g., consistent water quality standards nationwide and the nationwide standards for the provision of telecommunications devices for the deaf and disabled. Before the federal government sets new standard that might conflict with existing state standards, it provides a process when the affected states and regulated utilities are able to comment on the proposed standards. For example the Federal Communications Com-

mission, basically adopted the State of California's rules and regulations for the provision of telecommunications devices for the deaf and disabled as well as California's deaf relay system for all 50 states.

Other Regulatory Players

The National Association of Regulatory Utility Commissioners (NARUC) is an association made up of representatives from all the states' commissions. There are committees chaired by a commissioner for each utility operation. For example, there is a Water Committee and a Staff Subcommittee where staff members of the states meet and discuss common problems and possible solutions. There is a telecommunication committee, an electric committee, a consumer affairs committee and so on as well as additional staff subcommittees. The commissioners and staff members meet three times a year under the NARUC auspices. The National Regulatory Research Institute, NRRI, is the research arm of NARUC.

Additional there are regionally held meeting at least once a year for the commissioners and their staff.

There are trade associations such as the National Association of Water Companies and the US Telephone Association. There member organizations meet with staff and commissioners at various meetings to present their concerns from their respective members.

CHALLENGES MET

(a) Almost all privately-owned (investor owned) water companies with at least 1000-2000 connections are generally considered financially viable. Many commissions encourage (and in some case order) the larger water companies to purchase the smaller less viable companies The regulatory commissions recognize that there are additional costs and takes that into consideration when the water companies file for rate increases, and the customers benefit with improved service. As a rule-of-thumb, most regulators agree that a water company of at least 2,000 customers, with good management can be financially viable. In some states, mergers and acquisitions of smaller, less viable water companies are

³ The Clean Water Acts enacted by Congress primarily affected water utilities by addressing the quality of water. Many states through their state health agencies had already set water quality standards. The new standards as set forth in the Clean Water Acts in some cases raised the existing standards and in other cases added new water quality standards to be met. States were permitted to have even higher water quality standards should they desire.

encouraged. The larger, better managed companies are sometimes given additional revenues through an increased rate of return as a financial reward. The customers benefit from better water service.

(b) Many of the larger water companies now offer a reduced rate for water for low income users. This “life-line” offering is similar to the low income assistance available from regulated telecommunications and power companies.

(c) Commissions have approved an increasing number of mergers and acquisitions of large water companies where it could be shown that the ratepayers would either benefit from the merger or at the very least would not be harmed by it.

(d) All water companies (and all other utilities in California) file annually business and financial data, the annual report or the “Form M”. This is a valuable tool to analyze the utility’s operations on a year-by-year basis and to compare it to other similarly situated companies.⁴

(e) Commissions continue to adhere to the principal that utilities’ rates must be set to recover reasonable costs and to provide the opportunity for the companies’ investors to earn a fair and reasonable return on their investment, even during economic downturns.

CHALLENGES AHEAD

(a) Capital Requirements – Increasing cost of infrastructure replacement is a challenge for all the older water companies. New replacement water mains are being installed at costs far, far in excess of the original cost of the mains. As a consequence, construction budgets and maintenance costs are increasing necessitating larger rate increases. Commissioners and staff work closely with the companies to minimize the impact on the customers.

⁴ Annual Reports, or the Form “M”, originally a designation from the Federal Communication Commission (FCC), are a yearly filing made by regulated utilities to the state regulatory commissions (and to the FCC and the Federal Energy Regulatory Commission, FERC). These reports contain detailed accounting of balance sheet and income statement entries, revenues and expenses, plant balances, plant additions, depreciation, and additional financial and operating data valuable to regulators (and to the utilities alike).

(b) Water Quality – The USEPA, beginning with the first Clean Water Act in 1977, together with state public health agencies set the water quality standards that all water companies, public and private must meet. The regulatory commissions realize that these ever-changing water quality standards must be met and are working closely with the water companies and the health agencies to meet the deadlines with the minimum impact on the water customers. Water companies are now faced with removing a gasoline additive, MTBE, from aquifers or having to abandon wells to keep this foul tasting chemical from the drinking water system. The new standard for arsenic in water will affect many companies who will either have to abandon wells, blend water or build very expensive treatment facilities. Again, the commissions’ role will be to see that this is done timely and at the least possible cost.

(c) Water Supply – California like so many western states and countries is facing a water supply crisis. There is simply a greater demand than there is supply. Many public agencies and private water companies have embarked on water conservation programs, low flow toilets and the like. Water rates are now set at increasing block rates (more costly, the more you use), some companies are forced to ration water during dry years. Desalination is one, albeit, costly option, another is the importation of water via tanker ships or barges towing water bags to ports for distribution. More recycled water needs to be used to free up potable water for more customers.

(d) Benchmarking – The NRRI, the research arm of the National Association of Regulatory Utility Commissioners, is preparing a benchmarking study based on a number of California water companies. When complete, this may enable commissions, especially the California Public Utilities Commission, to better evaluate the performance of the companies and to simplify the rate setting process.

LESSONS FROM THE UNITED STATES EXPERIENCE

The United States’ regulatory experience as depicted above evolved over time, a long time. Is it the correct model for other devel-

oped and developing countries? Should the water companies even be regulated at all? Approximately 80 percent of the water supplied in the US is provided by some type of a municipal or water district (non-regulated). The other 20 percent is provided by investor owned (regulated) water companies. Who provides the best service? The answer is both. Some of the investor-owned water companies and some of the non-regulated water companies are not very well maintained, but this number is decreasing as many of these companies are being purchased by municipals and by regulated water companies. Is privatization the answer? Should the “state” or the local authorities operate the local water systems?

Perhaps part of the answer lies with the US experience.

If a developing country decides that it wants to regulate the provision of water service, the US model as it has evolved today is a good one, the form of incentive regulation in the UK is another. Any form of water regulation would require commitment from the government, the regulatory body and the water utilities alike together with careful implementation to educate the water customers of this change. There are enough examples in the literature to know how not to proceed. The primary goal a water provider must be the provision of good, clean water at affordable rates. This is true under any kind of regulatory format.

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