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Privatizing Water Systems: A Primer

Robert Vitale*

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Abstract

This Essay will discuss the reasons behind the trend of privatizing water systems, explain the basic concepts involved in privatizing water systems, and assess the benefits and challenges of privatization. The private sector has long played an active role in helping governments design, finance, construct, operate, and maintain potable and waste water systems. The 1990s, however, were witness to a dramatic rise in the use of the private sector to supplant—and not merely supplement—the public sector in the water area.

PRIVATIZING WATER SYSTEMS: A PRIMER

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I. *WHY PRIVATIZE?*

A tremendous demand has emerged in the United States for improving water-related infrastructure, including the need to repair, replace, and expand aging treatment systems. Estimates for the next twenty years range from the U.S. Environmental Protection Agency's ("EPA") US\$200 billion figure to the US\$1 trillion figure reported in April 2000 by the U.S. Water Infrastructure Network. Several factors have combined to create this massive demand for improvements in our water facilities.

First, many of the water systems now operating in the United States consist of outdated equipment nearing the end of its functional life. Although many systems operate properly (or at least within accepted tolerances), a significant number are over fifty years old, having been built in connection with the post-World War II housing and industrial boom. As a result, equipment problems are mounting. Furthermore, because the technology used to build these systems is so old, they are often far less efficient to operate than the more modern systems now available. Even repairing old systems can be problematic, as spare parts are no longer available from defunct manufacturers. Older systems also tend to have higher volumes of leakage and higher delivery costs, making them more expensive to operate. These same systems often cannot meet the increasingly stringent

* Robert Vitale is a partner with the law firm of Cadwalader, Wickersham & Taft and serves as chairman of the firm's Infrastructure & Privatization Practice Group. In addition, Mr. Vitale is on the board of directors of the International Private Water Association and regularly advises that body on developments in the U.S. municipal water market.

demands of new environmental regulations, nor can they be retrofitted, except at great expense.

Stricter compliance standards have created a need to upgrade older systems, as well as increased public awareness of problems with our water supplies. Factors such as these have led to growing political concerns over water usage and water treatment. Water is no longer viewed as a limitless and free resource; it is quickly becoming a prized—and a politicized—commodity. Thus, politicians are eager to find ways to better protect the environment and the water supply. For example, the *Wall Street Journal* reported that a Canadian town recently considered raising funds by selling water from a local reservoir through a pipeline to a neighboring town in the United States. When the idea became public knowledge, political forces in Canada stepped in to halt the transaction until the Canadian government could determine if the U.S. pipeline would lead to unchecked depletion of an important natural resource.

The escalating demand for water and water treatment is adding to the complexity of these challenges. As more people move to urban areas, the more they strain existing water facilities. The sprawling development simultaneously occurring throughout many parts of the U.S. midwest—a portion of the country that has frequently grappled with precious water supplies—is compounding this problem. Ranches and farms now find themselves competing with homes and office complexes for ever more scarce water resources. An increasing portion of the manufacturing sector now requires highly purified water, especially in the pharmaceutical and microchip industries. Recreational sites (such as golf courses and resort hotels) are also making tremendous demands on water resources.

Accompanying this concern about problems on the supply side is the realization that if proper precautions are not taken now, the cost of treatment and delivery could spiral out of control as demand increases. The recent problems encountered by California's energy market—attributable in part to supply-side generation and transmission shortfalls—could spread to the water sector if action is not taken soon.

Increasing federal regulation of the nation's water quality also increases compliance pressure on aging municipal water systems. For example, debate has arisen in the past several months

over the appropriate level of arsenic in potable water. The EPA has stated that arsenic is a known carcinogen at high levels (especially for skin cancer), and at low levels contributes to bladder, lung, liver, kidney, and colon cancers. In its final days, the Clinton Administration actively promoted a regulation designed to tighten the drinking water standard for arsenic. The rule published by the EPA in January of 2001 lowered the allowable level of arsenic in drinking water from fifty parts per billion to ten parts per billion. (At one point the EPA was considering a level as low as five parts per billion.)

Municipal water systems were among those complaining that the new arsenic standards were too expensive to meet and that compliance could cost some households as much as US\$2000. Indeed, U.S. Senator Pete Domenici (Republican-New Mexico) issued a statement declaring that in New Mexico, where arsenic levels are among the highest in the nation, the rule could cost at least US\$400 million in initial capital expenditures and at least US\$16 million in annual expenditures thereafter, without producing any "scientifically-documented health benefits." The new rule would affect about ten percent of the 275,000 community water systems in the United States, according to the U.S. American Water Works Association ("AWWA"), which came out in favor of the new, tighter standards while urging that the rule also be accompanied by a plan to help communities meet the requirements in a cost-effective manner. The AWWA estimated that the rule will cost about US\$6 billion in capital outlays and US\$600 million annually. U.S. Senator Domenici responded by introducing legislation (S. 223) to nullify the rule; meanwhile, other legislators sought to provide financing (through grants and government loan programs) to help states meet such new requirements if they remain the law of the land. Ultimately, in the face of such complaints, the Bush Administration repealed the Clinton-era rulemaking (leaving in place the 50 ppb standard) and remanded the issue for "further study."

In light of these formidable challenges, privatization of the water sector is receiving more and more attention as a viable alternative. At the municipal level, privatization can offer a number of significant benefits.

It is especially attractive to municipalities seeking a "one-stop shopping" approach to their infrastructure needs. Let's

look at a typical fact pattern. A municipality concludes that it must expand its potable water and/or waste water systems in order to accommodate local growth, and it must upgrade or retrofit these systems in order to comply with new U.S. Clean Water Act regulations. By using the privatization method, the municipality can locate a company that will start by undertaking a review of current system conditions (a task the municipality itself may not be able to do properly, especially in terms of underground facilities). The company then will design a new system, build out that system, finance it, operate and maintain it, handle all billing and collection on behalf of the municipality, and accept responsibility for managing and paying all related personnel. The new operator will most likely provide some assurances that water costs will not rise above a certain level for a certain period of time, and it may even provide assurances that water costs will level out or even decline. The transfer of control over the system in question may be accompanied (as explained below) by a sizable upfront payment by the new operator to the municipality. At the end of a pre-agreed period, the enlarged and updated system may even be returned to the municipality for no cost, or a nominal sum.

The political climate also has evolved in ways facilitating the privatization movement. The Clinton Administration, and now the Bush Administration, have taken to heart the battle cry for less federal regulation in deference to more state independence, and states have become more comfortable themselves in outsourcing to the private sector certain activities that were once wholly the province of municipal government. We have, in many areas, turned away from a belief that a regulated monopoly is better than a competitive marketplace. Although America often prides itself on taking the lead in service technology exports, it is Europe that has the substantial head start in the water privatization area. In particular, France and England have made great strides in the operation of privatized water systems, and a number of European companies look to America as a prized market for their skills and wares. Thus, by good coincidence, just when the American marketplace is considering how to best privatize, a number of companies, both domestic and foreign, are ready to bid—and bid aggressively—for these opportunities.

II. *HOW TO PRIVATIZE?*

Several methods of privatization are possible, combining different kinds of public and private cooperation. Perhaps the most basic form of privatization involves a government entity contracting out operation and maintenance (and sometimes expansion work as well) to a private firm after a competitive bidding process. The government entity (most often a local municipality) retains ownership of the physical assets of the water system, such as wells, reservoirs, pumping stations, treatment facilities, pipes, and meters. The duration of the contract may be as short as one year, or as long as twenty or thirty years. The municipality may continue to play a role in operating the system by handling billing and collection, or it may cede control over these aspects of operation to the private company as well. Depending on how long the contract is to remain in force, the private company may take on the expense of capital modifications to the system, recouping its costs through water charges to users of the system. Such operation and maintenance contracts often provide for both monetary incentives and penalties that are tied to performance levels. Contracts may call for the operator to sell water directly to private consumers; in the alternative, contracts may be structured as bulk water sales agreements, allowing the municipality to either mark up the cost of the water that it purchases or subsidize the cost of water to its population.

As part of these arrangements, the new operator may be required to supply its own work force. More often the operator agrees to either work with, or directly hire, the municipality's work force. Such a move helps to gain the support of local unions, who are generally willing to help an operator cut costs by any means other than cutting the work force or workers' benefits. If the new operator requires headcount reductions to truly maximize savings (since new technologies often require far less staffing), then the new operator will often volunteer to retrain excess members of the old work force for new jobs or will offer early retirement or other incentives to reduce the work force on a voluntary basis. Another method of reduction is to more vigilantly enforce performance reviews and substance abuse policies to weed out underperforming or bad elements from the work force.

Municipalities may prefer to use an operation and mainte-

nance contract ("O&M Contract") (rather than the sale contracts noted below) for several reasons. First, the so-called O&M Contract allows a municipality to explore the benefits of outsourcing in a manner that is relatively easy to terminate or modify if the arrangement does not produce the desired results. Thus, these contracts can provide for a relatively short initial term, accompanied by an automatic or semi-automatic renewal clause if performance is satisfactory. This approach, however, often involves a trade off, since potential operators are less willing to invest substantial time and money to upgrade or refine any system if the contract term may be too short for them to recover a reasonable profit.

O&M Contracts may also be used in circumstances where local laws or municipal bond indentures prohibit the outright sale of a government asset, but not the outsourcing of its operation. Both the municipality and the operator, however, must consider if the duration of the proposed contract, or its terms, could be read to have effectively ceded ownership of the assets to the operator. These contracts may also be preferred by the operator itself, if it is worried that accepting actual ownership of the assets could expose it to undesirable liability—such as for pre-existing environmental claims. Operators may also elect an O&M Contract over outright ownership if they are concerned that outright ownership will create a new expense for the system in the form of property taxes, which are rarely imposed on assets under municipal ownership.

An alternative method of privatization involves the actual sale of water system assets to the new operator, often with an obligation at the end of some predetermined period (usually twenty to thirty years) to return ownership of the assets to the municipality, either without charge or for an established amount. Usually a payment by the municipality is required at the end of the term only if the operator has invested its own money in upgrading the system and the duration of the contract has not allowed the operator a realistic opportunity to recoup those investments along with a fair profit margin and/or return on its investment. Indeed, using the operator to indirectly finance capital improvements is a good way to take advantage of privatization. By way of example, older bond indentures often prohibit a municipality from incurring further debt without satisfying certain financial tests tied to outstanding debt limits, or

they may require new issues of debt to be subordinated to existing debt issues. These indentures, however, may not treat operating contracts in the same way, and they often treat operating expenses as a priority to debt service on bonds. By converting the system to operation under a private O&M Contract and requiring the operator to raise and expend the debt (the cost of which the operator recoups through service fees for running the system), the municipality indirectly obtains the benefit of the new financing without violating its indenture.

Sales of a water system can also perform a crucial function for the municipality by raising capital. Auctions of larger systems serving cities can often generate hundreds of millions of dollars. This money can support an extensive array of municipal services—without the politically unpopular move of raising taxes. Such money is often received “lump sum,” without the municipality having to amass an equivalent amount of funds over many tax years. Not only can the municipality raise this money, but it can do so with no added cost to the consumer, since one of the most important benefits of system privatizations is either no increase in water costs (due to achieved efficiencies) or even a reduction in end-user costs. Thus, a properly structured deal can be a win-win situation for all parties involved.

It is interesting to note that most European operators prefer to own the assets that they operate (for greater control, among other reasons). But in several cases, American cities have bid out their systems for privatizations under the O&M Contract method, while still requiring very, very significant upfront “concession” payments from the winning bidder. These types of transactions are most often associated with O&M Contracts lasting a minimum of twenty years, a term that allows the operator to recoup these upfront payments. If the contract is terminated (by agreement or by default) before the end of the expected period, the municipality is required to pay a termination fee, which can be set at differing levels depending on the reasons for premature termination of the contract.

Although used less often, other potential methods of privatization include lease structures and the formation of a special purpose company to receive all assets to be privatized with the stock of the subject company (as opposed to the assets themselves) being sold to the new operator. Leasing structures can often combine the benefits of an O&M Contract with those of

the asset sale method, especially if such hybrids are used to transfer tax benefits. For example, if a new system is to be built (or an older system expanded or upgraded) with equipment that is eligible for depreciation deductions, but the operator is not in a position to use these deductions directly, it can arrange for ownership of the system by a third party that is in a position to use these benefits. The nominal owner appoints the operator to raise all financing for the build out (excluding any necessary equity infusions by the nominal owner required to obtain the proper tax treatment) and to operate and maintain the system under a "net lease." The lease rentals are sufficient to amortize the debt incurred to build out the system, but they also reflect the tax benefits transferred to the new owner—and in turn, the municipality reaps the indirect benefit of what would otherwise be unusable tax benefits through lower water costs.

The special purpose company route has been used to isolate a system's assets from other related functions being undertaken by a municipality and to facilitate the transfer of these assets, often where some form of shared ownership of the new company is desired. For example, a number of overseas municipalities have marshaled support for a privatization by selling a controlling ownership stake in a newly privatized entity to a foreign investor/operator, while simultaneously arranging for entities such as national pension plans to retain a minority interest in the company. In some cases, ownership of a minority interest may be offered to the public, including union members affected by the privatization. Often this minority stake is made available on favorable economic terms, thereby helping to assure political support for the privatization.

Using special purpose companies to own the privatized assets can often facilitate the financing and transfer of the assets themselves (especially if the system requires the transfer of multiple permits, contracts, land rights, etc.). Transferring ownership of the company's shares may be a much more efficient way to transfer the assets, because the share transfer is generally a single transaction, as opposed to the multiple regulatory filings needed to transfer permits and/or the multiple contracts needed to transfer assets. The ease of the share transfer may be important to a municipality seeking a speedy termination of the transaction if problems develop. Likewise, in circumstances where the assets can be pledged (and are being pledged) to a

financier in connection with the privatization, the financier may insist upon a stock pledge to make foreclosure a quicker process as well. Time-saving and cost-efficient transfers can be critical to the success of the privatization because water systems often involve an array of contractual relationships and permits.

III. *HOW DOES TAX EXEMPT DEBT COMPLICATE PRIVATIZATIONS?*

One of the tougher issues frequently faced by parties when privatizing municipal water systems concerns the use of tax exempt financing. Typically, United States municipalities have favored the use of tax exempt debt when financing to build or expand their water systems. Parties seeking to privatize systems financed with outstanding tax exempt bonds must take precautions to structure the transaction so as not to run afoul of the "private activity bond" rules of the federal tax code. Briefly stated, these rules limit the ability of private companies to enjoy the direct—and indirect—economic benefit of facilities financed with tax exempt debt. One of the theories behind this limitation is that issuance of tax exempt debt is a special right granted by the federal government to the states in their governmental capacity and private companies should not be the beneficiaries of this largess.

Before 1997, the U.S. Internal Revenue Code severely limited the ability of private companies to earn profits by operating municipal facilities financed with tax exempt debt. Although the U.S. Code would, for example, allow a private company to be paid a fixed fee for operating a plant, the operator usually could not earn compensation tied to the economic success of the system. Thus, incentive payments for improved operation were difficult to structure. Furthermore, these same regulations limited the duration of the contracts in question and required the municipalities to retain an option to cancel the contracts after as few as three years. As noted above, because of the high capital costs often associated with taking over, building, or expanding a system, operators have relied on long term contracts to recoup their own investments. At the same time, municipalities have wanted to shift to the operator the risk of operating losses (in trade for the opportunity to earn operating profits).

In a welcome development during 1997, the U.S. Internal

Revenue Service modified the private activity bond rules to allow private entities to operate water facilities for up to twenty years without affecting the tax exempt status of bonds previously used to finance the facility, so long as they adhere to certain compensation formulas. Although these compensation rules can still present structuring challenges, they do allow much more flexibility for local governments to hire private companies to operate water facilities on a long term basis while financing the project with tax exempt debt. Despite these more favorable rules, if it is still not possible to create a compensation structure that both meets the needs of the operator and complies with these regulations, it may be possible for the municipality to use the upfront payments mentioned above to retire the tax exempt bonds in order to remove this impediment to the transaction (assuming that the bonds are callable at that point).

IV. *WHAT CRITICAL CHALLENGES DO PRIVATIZATIONS POSE?*

Privatizations do not come risk or challenge free. Along with the sensitive labor issues already discussed, environmental and health concerns can send the municipality and the operator into lengthy negotiations over which party bears the risk for problems related to the raw water input and the treated water output. These discussions can become particularly sensitive if the municipality is privatizing only a portion of its system, so that the new operator and the municipality will continue to share access to certain treatment facilities or pipelines.

But these points mark just the beginning. The list of other issues to be addressed by the parties includes the following significant items:

- the establishment of water charges, billing and collection procedures, and termination of service procedures;
- ownership of intellectual property used in the operating systems;
- requirements to build out systems to reach outlying areas;
- requirements to upgrade systems to comply with changing environmental regulations or to take advantage of the best available technologies;
- responsibility for locating replacement water sources in times of drought;

- sales of excess watershed rights; and liability for third party pollution problems.

Privatization can also be complicated when the new operator is not a domestic company, but is instead one of the many overseas companies now active in this area. Although we may feel that the United States has, in most respects, integrated itself fully into the world economy, we still hesitate to turn over something as sensitive as water control to what is often perceived as an "outsider."

Along these lines, post-privatization sales or development of excess watershed can often be a complicating and emotion-charged factor in privatizations. In circumstances where a private operator has purchased a municipality's water-related assets, they may include the municipality's water shed areas as well as industrial equipment. The private operator may conclude that certain watershed areas are surplus to its supply needs, especially if it intends to modernize a system by using highly efficient equipment. In order to maximize revenue, the operator may want to either develop the watershed area or sell it off to others for development. In fact, such sales and/or development may be a crucial component in the operator's overall financial plan for the privatized system and may be necessary to help repay debt incurred to purchase the assets (or make upfront payments) associated with the privatization in question. Such sales and/or development, however, can lead to substantial conflict with local environmental or community groups who are reluctant to see virgin land converted to other, more commercial uses.

By way of example, the author of this Essay lives in small Connecticut town, whose private water supplier was recently purchased by an English water company. As part of its development plans, the English company sought to sell off certain undeveloped watershed areas deemed excess to its needs. The affected communities quickly rallied to form a group to fight the proposed sales. They were successful, first at forcing the company to declare a three-year moratorium on the proposed sales and then at obtaining state assistance to purchase the land directly for conservation (presumably at a lower price than a private sale would have realized).

V. HOW DO GOVERNMENT PROGRAMS AND POLICIES SUPPORT PRIVATIZATION?

The privatization movement is getting a boost from several trends at the federal and state level. As already noted, the federal tax code restrictions have been relaxed in the area of private activity bonds. Industry representatives are now pushing for even more incentives to use the tax code to increase privatization activity, especially in the water area. For example, New Jersey has explored providing tax credits and/or sales tax relief for the purchase of equipment associated with improving water systems. Lobbyists are also pushing to repeal or modify other parts of the federal tax code that require states to refund to the federal government certain federal grant money if water-related projects constructed with such grant money are sold to the private sector or refinanced in certain ways. Supporters of privatization have also pushed for legislation similar to that enacted from time to time to support the power market. Such legislation would actively encourage the development of privatized water systems by excluding tax exempt financing used for water systems from state volume caps, which set the amount of tax exempt debt that a state can issue.

The federal government also supports improving the water area through various funding programs. For example, during the 1980s state revolving funds ("SRFs") were created under the U.S. Clean Water Act to provide low-interest or no-interest loans to communities and states to help them address their water needs. Under these programs, the EPA provides grants to states to capitalize state revolving funds for projects related to clean water and drinking water. Providing some additional money themselves, the states then use the combined funds to make loans (or in some cases grants) to waste water and drinking water projects. As the loans or grants are repaid, the states "revolve" the repayments to make further loans and grants. Under the U.S. Clean Water SRF, the EPA provided (from 1988 to 2000) over US\$17 billion in federal money to the states, and the states in turn provided over US\$30 billion in loans. Under the Drinking Water SRF, the EPA provided (from 1997 to 2000) over US\$2.7 billion in federal aid; the states had some US\$4 billion in funds available to them and provided some US\$2.4 billion in loans for projects.

For the past several years, the annual funded amount for SRFs has been set at about US\$1.35 billion, but some senators have recently proposed increases in that funding. For example, U.S. Senator George V. Voinovich (Republican-Ohio) introduced legislation (S. 252) to raise the annual authorization of the SRF loan program from US\$1.35 billion to US\$3 billion. The bill would also authorize technical assistance (by outright grants) for small water systems having difficulty paying for improvements and repairs to waste water collection systems and treatment facilities. In calling for the increased funding, Senator Voinovich estimated that Ohio alone needs about US\$4 billion to correct problems with aging sewer systems and storm sewers. He noted that while the loan program was helpful, a grant program was also needed in those cases where repaying loans would place a significant burden on local communities.

The just-closed 106th U.S. Congress considered some notable new bills under the U.S. Estuaries and Clean Waters Act (S. 835). Of particular interest is a proposal called the Tijuana River Valley Public-Private Partnership, which calls for a mechanism to facilitate the treatment of sewage emanating from Tijuana, Mexico, and flowing north into San Diego, California. The U.S. Department of State is considering entering into a twenty year O&M Contract with a private operator to develop, finance, build, operate, and maintain a wastewater treatment plant in Mexico to address this problem.

Migratory pollution to water is not limited to rivers and other ground sources. Indeed, a study issued in December 2000 by the U.S. Geological Survey came to the troubling conclusion that as much as one-third of the nitrogen content in coastal streams comes from rain and airborne particles emanating from automobiles and power plants. The areas with the highest concentration of nitrogen from atmospheric sources were in the U.S. Northeast and Mid-Atlantic states. Excess nitrogen in the water leads to overgrowth of algae, bacteria, and other microscopic organisms that compete with fish, plants, and other wildlife for the oxygen needed to survive in a water-based ecology.

VI. *WHAT HAPPENS NEXT—AND WHERE?*

The United States is well along the path of acknowledging that water is a national strategic commodity—just as much as gas

or oil. Pundits have predicted that future wars will be fought not for land or fuel, but for water. This point is driven home by a recent article in Lebanon's *The Daily Star* that reports that Turkey's consideration of water sales to Israel has alarmed its neighbors, Syria and Iraq. "The political overtones are immense," the article observes, "underlining Turkey's expectations of using its vast water resources as an instrument of foreign and security policy to make it a power center in the Middle East." For Syria and Iraq, the potential sales present a "strategic threat."

Privatization offers but one way to address the critical issues of prudent water management and development, but it may prove to be the best way for governments, both state and federal, to quickly modernize our infrastructure systems. The challenge that lies ahead is how to get state and federal officials to recognize this potential and to act on it—by changing both our laws and attitudes so that privatization becomes a viable means of dealing with troubled waters.