

POLICY DISCUSSION OF PUBLIC AND PRIVATE GOVERNANCE OPTIONS FOR WATER SUPPLY MANAGEMENT IN DELAWARE

Gerald J. Kauffman

ABSTRACT: The Great Century-ending Drought of 1999 provided heightened visibility regarding the adequacy of water supply management in Northern New Castle County, Delaware. New Castle County is the northernmost and most populous of Delaware's three counties situated along the I-95 corridor about mid-way between Philadelphia and Baltimore. Because the drought threatened to cause water supply shortages; elected officials, the public, and media have called for the reexamination of the regional water delivery structure. Currently, publicly owned water purveyors (municipalities) and investor-owned water purveyors (private water companies) supply drinking water to 440,000 people in Northern New Castle County. A patchwork of Federal, State, and local agencies regulate water supplies. In the after effects of the drought, many have hypothesized that water supply management in Delaware could become more efficient by privatizing water system ownership and operations. Continued public management of water supplies in the large municipalities is appropriate to allow for public input and oversight and provide affordable water rates for all income classes. Continued private management of the suburban water systems is appropriate to provide more efficient expansion of these systems in developing areas. Privatization and private operation of water utilities can be done efficiently but one must be careful that public input, the democratic process, and the rights of all economic classes in the community are not restricted in the quest to provide the most basic of human needs — water.

(KEY TERMS: Water Policy/Regulation/Decision Making, Water Resources Planning)

INTRODUCTION

The Great Century-ending Drought of 1999 provided heightened visibility regarding the adequacy of water supply management in Northern New Castle County, Delaware. New Castle County is the northernmost and most populous of Delaware's three counties situated along the I-95 corridor about mid-way between Philadelphia and Baltimore. Because the drought threatened to cause water supply shortages; elected officials, the public, and media have called for the reexamination of the regional water delivery structure (Kauffman, Wollaston, Talley, & Lovell, 1999). Currently, publicly owned water purveyors (municipalities) and investor-owned water purveyors (private water companies) supply drinking water to 440,000 people in Northern New Castle County. A patchwork of Federal, State, and local agencies regulate water supplies. In the after effects of the drought, many have hypothesized that water supply management in Delaware could become more efficient by privatizing water system ownership and operations.

The purpose of this paper will be to explore the advantages and disadvantages of public and private water management in Northern Delaware. We will review and discuss the various forms of privatization and induced competition structures such as asset sales and contracting as they relate to water management. In addition we will delve into the advantages and disadvantages of creating new public/private ventures such as authorities, private utility consortiums and public-private corporations to provide water. Our discussion will be arranged according to the following outline:

- I. Existing Regional Water System in Northern New Castle County
- II. The Delaware Water Regulatory Universe
- III. Privatization of Publicly Owned Water Purveyors
- IV. Public/Private Governance Options
- V. Discussion of Public vs. Private Management of Water Operations
- VI. Summary/Conclusions

EXISTING REGIONAL WATER SYSTEM IN NORTHERN DELAWARE

Five public and private water purveyors provide water to residents and businesses in Northern New Castle County, Delaware (Figure 1). Because the five interconnected water suppliers serve such a relatively small geographic area, it is often thought that water supply management could be more efficient by combining the 5 providers into one public or private company. Those that argue that drinking water should be affordable to all economic classes and accountable to the community would argue for the public (municipal) provider of water. Privatization of these supplies would be suitable for those that support the efficiencies of competition and comodification of water supplies. Those seeking to pursue a middle ground would tout some type of public-private partnership to manage water supplies.

In Northern New Castle County, public water purveyors serve 40 percent of the population and privately owned purveyors serve 60 percent. These ratios differ nationally where 85 percent of the population are served publicly and private water providers serve 15 percent of the population (American Water Works Association, 1997). Table 1 summarizes the five water providers in Northern New Castle County and the service population. These statistics suggest that the delivery of water is already highly privatized in Northern Delaware.

Table 1
Five Major Water Providers in Northern New Castle County, Delaware

<u>Water Purveyor</u>	<u>Type</u>	<u>Population</u>	<u>%</u>
City of Wilmington	Public	140,000	31 %
City of Newark	Public	33,000	8 %
City of New Castle	Public	6,000	1 %
Artesian Water Co.	Private	172,000	39 %
United Water Delaware	Private	<u>93,000</u>	<u>21 %</u>
		444,000	100 %

The following major utilities provide water supply in Northern Delaware:

The **City of Wilmington** is a publicly owned water utility, which has the largest water supply in New Castle County drawing from the Brandywine Creek. Wilmington is the oldest purveyor and serves 140,000 customers in the City and surrounding suburban areas.

The **City of Newark** is publicly owned and serves 33,000 people in the City including the University of Delaware. It is the only water purveyor that draws water from a stream (the White Clay Creek) and wells.

The **City of New Castle** is publicly owned by the Board of Water and Light and is one of only two water purveyors with surplus supply.

The **Artesian Water Company** is a private, investor owned water purveyor and is the largest water utility in Delaware serving 172,000 people. Artesian's main supply is from its wells.

United Water Delaware is a privately owned water purveyor drawing water from the White Clay Creek and the Christina River and it serves 93,000 residential and industrial customers.

THE DELAWARE WATER REGULATORY UNIVERSE

Currently, a framework of Federal, State and Local agencies regulates drinking water supply in Delaware (Figure 2). Currently, the regulations for water supply permitting, allocation, and planning are administered from many differing State departments. Free market forces argue that water supply management would be become more efficient by removing these layers of bureaucracy and deregulating and stream lining the water regulatory environment. Before we have that discussion, let us review the various offices of regulation in Delaware.

The **Delaware Department of Natural Recourses and Environment Control (DNREC), Division of Water Resource, Well Drilling Section** issues licenses to well contractors, drillers, punp installers and issues well permits.

The **Delaware DNREC, Division of Water Resources, Water Allocation Permit Section** is the trustees of water resources under State law and issues permits for surface and ground water withdrawals greater than 50,000 gallons per day.

The **Delaware DNREC, Division of Water Resources** issues water supply service area franchise licenses to water providers requiring little more than the permission of a property owner and a map of a property.

The **Delaware Division of Public Health** regulates the quality and safety of drinking water and establishes health standards.

The **Office of the State Fire Marshall** certifies land development plans to require adequate water supply capacity and pressure for fire fighting purposes.

The **Public Service Commission** regulates water rates and sets standards for adequacy of service to customers for water capacity, pressures, and drinking water quality. Under State law, water is a resource owned by the public and water is a natural monopoly to be regulated by the PSC.

New Castle County through its recently adopted Unified Development Code requires new developments to fill out a water certification form to prove adequate water capacity and pressure to meet increased water demand due to growth and new development.

The Delaware River Basin Commission was formed by a compact of the 4 Governors in Delaware, New Jersey, New York, and Pennsylvania and the Federal Government to oversee water supply regulatory matters in the 4 States of the Delaware River Basin (watershed).

There are 8 separate offices or bureaucratic layers that regulate water supply management in Delaware. The regulatory offices are lightly coordinated and there is some redundancy and overlap. Perhaps more regulatory structure in the form of a water authority is needed to create an umbrella for coordinating water regulation. Or maybe the answer is to deregulate, loosen water supply regulations, privatize, and allow competition to form more efficient water operations.

PRIVATIZATION OF PUBLICLY-OWNED WATER PURVEYORS

The drought of 1999 was a severe meteorological event which threatened to interrupt water supplies in Northern New Castle County. Due to the near crisis, privatization has been discussed as an alternative approach to the management and operation and ownership of drinking water facilities. Privatization has been defined as any private sector involvement in the development, ownership, and operation of entities and water facilities that have historically been public water providers (AWWA, 1997). Since privately owned purveyors serve 60% of the population in Delaware above the C & D Canal, consider the case of privatizing the three remaining public water providers- Wilmington, Newark, and New Castle. Three of the most popular forms of privatization include load shedding, asset sales procurement, and contracting (Osborne and Gaebler, 1993). In this analysis we will consider the following options:

1. Status Quo - Continued Public Ownership with Public Employee Operations
2. Asset Sales – Sale to Private Operations
3. Contracting – Public Ownership with Private operations

Status Quo - Public Ownership with Public Employee Operations

This option includes continued ownership and management of the public water system by the three municipal water systems. Many proponents of public water ownership argue that water is a natural monopoly and is a basic human need best regulated by a Public Utility Commission. If water service were deregulated and monopolized, duplication of infrastructure and over use of the water resource would result. This would be the case where two private water companies would have parallel pipes in the same neighborhood or the case where two wells from two different companies in the same neighborhood would overuse the aquifer (Morgan and Chapma, 1997).

A University of Southern California study concludes that water service is better suited for government control than by private, investor owned enterprises (Morgan and Chapma, 1997). The USC study goes on to say that water supply is a natural monopoly because it is capital intensive, and has significant fixed costs. If the public sector provides water service, rates are set by elected officials who are accountable to voters in the community. Public control is preferable because in a water monopoly under private control, case studies indicate that prices rise, quality goes down and inefficiencies abound (Meredith, 1992).

The case for public management of water supply is neatly summarized in a report by the International Forum for Globalization indicating that selling water on the open market does not address the needs of poor, thirsty people. There is a social inequity to water privatization where poor people can pay a significant percentage of their income for drinking water (Barlow, 1999). At the March 1999 World Water Forum in the Hague, Netherlands, speakers touted the advantages of public ownership of water supply because (1) clean water for basic needs is a fundamental human right, (2) water is a public trust to be guarded at all levels of government, and (3) an adequate supply of water is a basic human right.

One of the superior advantages of continued public water service is lower costs to customers. According to a 1999 survey of residential water rates in Delaware and the contiguous States of Maryland, New Jersey, and Maryland, the cost of drinking water from publicly owned water systems is 40 percent lower than the cost of privately owned systems (Kauffman, 1999). On the average, public systems in the sampled states charge residential consumers \$ 2.97 per 1000 gallons (\$ 178 per year) compared to private water charges of \$ 4.85 per 1000 gallons (\$291 per year). Municipal water costs are less because there is not a profit motive, policy decisions are made by community minded officials to make water affordable for all income levels, and public bonds for capital improvements provide tax-free leveraging.

Under the status quo option, public ownership of the municipal water systems in Wilmington, Newark, and New Castle would continue because (1) water is a natural monopoly best regulated by the Public Service Commission to minimize duplication and redundancy and (2) water is a basic human need that should be affordable for all income groups. Accountability and public equity is best served by voter oversight of elected officials, and water provided by the public sector is significantly less costly than the water provided by the private sector.

Asset Sales – Sale with Private Operations

This option includes the competitive sale of the municipal water systems to a private water company to induce competition and bottom line driven performance. The Cities would sell the water systems to the highest qualified bidder in a competitive process. This form of privatization is popular in Germany, Great Britain and in Russia but less so in the U.S (Gormley in Lane, 1993). The Cities would receive a large up-front capital payment and in return would be relieved of the need for staffing and budgeting to provide water service. According to literature published in [www. privatization.org](http://www.privatization.org), governments can take advantage of the leverage implicit in the competitive bid process by selling their water assets to private companies. According to the Reason Public Policy Institute, investor-owned water companies provide comparable water services to consumers even though they pay taxes and because private companies are accountable to shareholders. There is a bottom line need to serve the customers (Neal, Maloney, Mason, Francis, 1996). The advantages of an asset sale as a water privatization strategy are the large up front capital payments to the Cities from the sale, and the efficiencies inherent in a bottom-line driven private water company where performance is demanded by investors and shareholders.

Contracting – Public Ownership with Private Operations

Contracting out is one of the most popular forms of privatization that injects competition into public services (Osborne and Gaebler, 1993.) This option includes continued public ownership of the municipal water systems with contracted private operations. Types of services that could be contracted out include the entire water supply system or outsourcing portions such as engineering consulting to design water main replacements, water laboratory analysis, or meter reading and billing (American Water Works Association, 1997).

Contracting out water services could be lucrative to municipalities. The City of Atlanta received \$ 21.4 M from a private water company to run the water system in a 20-year contract (Atlanta Journal, Constitution, 1998).

The advantages of contracting out services are reduced costs, the ability to obtain special expertise, and avoiding red tape (Fessler and Kettl, 1996). Applied to water service, by inducing competition between private water bidders to obtain a 10 or 20-year contract, overall costs will be reduced because the private sector can do things quicker than the public sector. Contracting out to a full service private water firm could provide special expertise such as water design engineers and a water quality testing laboratory that the municipality can not afford to have on staff. Contracting water service out can avoid red tape because the private workers are not subject to civil service regulations thus implying that the private workers will be more motivated to carry out the job. Also, private water operations minimize red tape because the staff can shrink and grow depending on the workload, which minimizes the need to hire and fire public works staff under cumbersome government personnel regulations.

Contracting out for water service also has several disadvantages such as complicated contract oversight, underperformance, sanctions and corruption (Osborne and Gaebler, 1993). Contract management of privatized services can be expensive (up to 20 percent of the cost of a project) and is frequently underestimated by municipalities. For instance a \$ 20 million, 20 yr. contract for private water service could have a \$ 4 M contract administration fee requiring oversight by an experienced municipal water official. Since contracts are bottom line driven, there is a temptation for underperformance where corners may be cut in providing reliable water service and cutting back on water treatment chemicals or top quality water pipe materials. For contractors that underperform, the municipal oversight agency often has difficulty terminating the contract and bringing in a more reliable water contractor. On under managed yet high priced water contracts there may be temptation for corruption where contractors pay kickbacks to win contracts from municipal officials.

Public ownership with private operation by contracting out can work because it induces efficient water delivery through competition and it works particularly when portions of the water system are outsourced like laboratory testing, contract design and meter reading. However, without proper contract oversight, there can be temptations by the private contractors to underperform or be corrupt thus resulting in less efficient supply of water to the public.

There are advantages and disadvantages to the public versus private delivery of drinking water services. Each form of water system is prevalent in Northern New Castle County where 40 percent of the population is served by public water systems and private, investor owned water systems serve 60 percent. Table 2 provides an executive summary of the advantages and disadvantages of public and privatized delivery of drinking water in Delaware.

Table 2
Advantages and Disadvantages of Public and Privatized Water Systems

<u>Water System</u>	<u>Advantages</u>	<u>Disadvantages</u>
Publicly owned and Operated	Under DE law, water is monopoly	Less efficient, Slow

	Minimizes duplication of infrastructure Accountable to elected officials More Affordable to low income strata Water is a basic need by government	Cumbersome personnel rules
Sale with Private Operation	Bottom line driven efficiencies Leveraging through competition Initial lump sum capital payments	Not accountable to voters Requires contract oversight to prevent under performance and corruption Higher water rates eventually
Public Ownership w/Private	Initial lump sum capital payment	More costly water rates
O & M by Contracting Out	Reduced cost through competition Specialized Expertise Reduced red tape	Complicated Contract Oversight Potential for underperformance and corruption

PUBLIC AND PRIVATE GOVERNANCE OPTIONS

As an alternative to privatizing the publicly owned water systems in New Castle County, governance options such as public water authorities, public private partnerships, and private consortiums have been discussed to better management water systems in Northern New Castle County (KPMG Peat Marwick LLP, 1997):

Authorities – Under this public water management option, a State Water Authority would be created by the legislature to take over the water operations of the five public water purveyors and publicly own and operate the regional water system. The advantages of a public water authority are that it would (1) enable a regional and equitable approach to supply solutions, (2) be independent and neutral from public and private purveyor interests, and (3) it could utilize tax free public bonding and financing capability. The commonly cited disadvantages of a new authority are it would (1) require new enabling legislation and management structure, (2) add an additional layer of government water oversight, and (3) could be subject to mismanagement without sufficient oversight and accountability mechanisms.

Public-Private Partnership - This middle ground option involves the public ownership of the regional water system through a public corporation with private operation under contract by an investor owned water purveyor. The advantages of the public-private partnership include (1) no new enabling legislation if a sufficient parent corporation is found to host the entity, (2) publicly owned facilities would be accountable to elected officials, (3) public ownership with tax exempt financing, (4) private water operation efficiency. The disadvantages include (1) need for startup costs to ramp up the organization, (2) stringent contract oversight needed, and (3) private utility operations are not necessarily neutral, motivated for contract reasons not need to serve customers.

Private Utility Consortium – And the third governance entity is to establish a consortium of private water utilities to assume ownership and operation of the Northern New Castle County regional water system. The advantages of this private consortium are (1) private interests could develop projects quickly, (2) they are experienced and (3) have specialized staff in water operations. The disadvantages are that the private consortium would be (1) subject to property taxes, (2) tax exempt financing would be difficult to obtain., and a private consortium is not independent, not neutral, and its primary accountability would be to shareholders, not elected officials.

DISCUSSION OF PUBLIC VS PRIVATE MANAGEMENT OF WATER OPERATIONS

A discussion of public versus private management of water operations in Northern Delaware can be enhanced utilizing the “contrast of government management and private management” model advanced by Dunlop, 1979:

Time Perspective/Duration – Public water operations and budgets tend to have shorter durations usually driven by the 4-year election cycle. Elected mayor and councils appoint limited term municipal water directors. Whereas, private water operations tend to have a longer time perspective driven by long term strategic plans. A longer term perspective is not always the case in private water management as one of the private water utilities (United Water Delaware) have changed water managers every two years but the parent corporation stresses long term oversight to comply with the company's overall plan.

Measurement of Performance – The public water purveyor’s performance is accountable to elected officials who answer to voters in the community, and to regulatory oversight by the government agencies. Municipal water system performance is based on the reliability of customer service as judged by the adequate and uninterrupted delivery of clean and plentiful water.

In addition to performance based on customer satisfaction, the private water purveyor performance is ultimately accountable to the board of directors and the shareholders.

Personnel Constraints - The public water purveyors often have cumbersome personal procedures, which make it difficult to hire, retain and terminate personnel. The private water purveyors usually have more efficient personnel management rules not restricted by rigid civil service rules.

Equity/Efficiency - The public water purveyors strive to provide equitable delivery of water to all constituents meaning all economic and demographic classes. Public water purveyors set lower water rates low to provide equity to the residents particularly to the economically disadvantaged. The private water purveyors strive for efficiency as means for greater rate of return on investments and profit taking and are not as concerned with equity.

Public/Private Processes – The public water purveyors must conduct operations in a public forum. Capital budgets and water supply improvements by public water utilities must be approved by municipal councils which require lengthy public debate and consensus by elected officials in accordance with a democratic process. Private water purveyors can conduct business without public participation thus constraining democratic inputs into impacts such as water rate increases on low income populations.

Legislative Oversight – Public water providers answer to elected councils and officials whereas the private utilities do not. The public scrutiny of a public water supplier sometime constrains and delays executive level decisions regarding new reservoirs or proposals to increase water rates. A private water purveyor can act more rapidly to build a new reservoir without public input and raise water rates if approved by the Public Service Commission without the need to answer to elected officials.

SUMMARY/CONCLUSIONS

In Northern Delaware, drinking water supplies are provided by three publicly owned water purveyors and two private, investor owned water purveyors. The drought of 1999 nearly caused a water supply shortage leading many members of the public, officials, and the media to call for an overhaul of the regional water system. The options available include continuing the status quo, privatizing the existing public water operations, and/or creating a new governance structure in the form of a new water authority, public/private corporation, or private consortium.

Publicly minded water managers will argue that municipal water management should continue because the water delivered to customers is less expensive and water is a basic human need that should be available and affordable to all income groups in a community. Elected officials who answer to the voters in the community are best suited to provide accountability over public water management in a democratic fashion through public input and oversight. The Cities of Wilmington, Newark and New Castle should be continued to provide public water for the benefit of all people (rich and poor) with oversight provided by democratically elected councilmanic, municipal governments.

Privatization interests argue that water supply can be provided more efficiently by private companies because of the competition needed to meet the bottom line, more specialized staff, and less constrained personnel management structures. Private water company operations seem to be more appropriate outside of the cities in developing suburbs where low income neighborhoods are generally not an issue. In the rapidly growing suburbs where growth is prevalent, the private water purveyors are more suited to expand the water system quickly and efficiently than probably could be done by the municipal purveyors.

So the current mix of public water purveyors in the cities (Wilmington, Newark, and New Castle) and private water purveyors in the suburbs (Artesian Water Company and United Water Delaware) seems to be appropriate. What is needed is more coordination and cooperation between the public and private purveyors so their individual interests in politics (by the municipalities) and profit (by the private purveyors) do not outweigh the basic need to provide clean and plentiful water to the public. Perhaps the appointment of a Water Master or Coordinator would be prudent to assist the water purveyors in working together to deliver water through the Northern Delaware interconnected system.

The last words regarding water and privatization can be taken from a column written by David Morris in 1996, which states that *"We should discuss privatization's impact on democracy as well as efficiency. Almost 100 % of the privatization debate revolve around discussion of dollars and cents. That is unfortunate. There is a lot more at stake here. We should discuss privatization's impact on democracy as well as efficiency. Instead of the Supreme Court's one man, one vote decision, the privateer defines citizenship as one dollar, one vote"*.

Princeton professor Paul Starr goes on to say that *"Privatization diminishes the public sphere of public information, deliberation, and accountability. What does privatization do to our sense of community"*

Privatization and private operation of water utilities can be done efficiently but we must be careful that public input, the democratic process, and the rights of all economic classes in the community are not restricted in the quest to provide the most basic of human needs – water.

ACKNOWLEDGEMENTS

The author would like to thank Dr. Deborah Auger for providing guidance during the preparation of this paper during the Masters of Public Administration curriculum at the University of Delaware.

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