DOUGLAS LEE PATCH

Home: 20 Buckingham Drive
Bow, NH 03304
(603) 774-5113

Work: Orr & Reno, P.A.
One Eagle Square
PO Box 3550
Concord, NH 03302
(603) 223-9161
E-mail: dlp@orr-reno.com

WORK EXPERIENCE:

SHAREHOLDER/DIRECTOR, Orr & Reno, Professional Association, Concord, New Hampshire. November 2001 – Present. Member of the Health, Insurance and Regulated Industries practice group.

CHAIRMAN, Public Utilities Commission, Concord, New Hampshire. March 1992 – October 2001. Administrative head of three member quasi-judicial regulatory commission, 70 member staff and annual $6 million plus budget. Involved in electric, telecommunications and natural gas industry restructuring and traditional regulation of gas, electric, telecommunications and water industries.

ASSISTANT COMMISSIONER, Department of Safety, Concord, New Hampshire. 1986 – 1992. Second in command for public safety department; overseeing six divisions, handling legislation for department and providing advice on various legal issues.

ASSISTANT ATTORNEY GENERAL, New Hampshire Attorney General's Office, Concord, New Hampshire. 1982 – 1986. Bureau of Legal Counsel, representing various state agencies and licensing boards.

LEGISLATIVE ATTORNEY, Office of Legislative Services, Concord, New Hampshire. 1978 – 1982. Drafting legislation and amendments, advising legislators. Counsel to committee recodifying motor vehicle laws.

EDUCATION:

BOSTON COLLEGE LAW SCHOOL, Newton, Massachusetts. Juris Doctor Degree, June 1978. Top one-half of class. Participant in criminal clinical program. Summer law clerk at United States Attorney's Office in Boston and part-time employment at Bingham, Dana and Gould in Boston during last two years of law school.

UNIVERSITY OF MASSACHUSETTS, Amherst, Massachusetts. B.A., Magna cum laude, June 1975. Political Science/Honors Major. Congressional internship in Washington, D.C. spring semester of junior year. Member of Student Senate.

FITCHBURG HIGH SCHOOL, Fitchburg, Massachusetts. Graduate, 1971. Member of Student Council. Varsity baseball team, junior varsity basketball. Advanced placement Latin program.

PROFESSIONAL AFFILIATIONS:

AMERICAN ARBITRATION ASSOCIATION, COMMERCIAL PANEL, Boston Regional Office, 2002 – present. Completed Arbitrator I workshop February 2003 and Arbitrator II workshop February 2004.

CHAIRMAN, NUCLEAR DECOMMISSIONING FINANCING COMMITTEE, 1992 – 2001. MEMBER, 1986-2002.

VICE CHAIRMAN, NEW HAMPSHIRE SITE EVALUATION COMMITTEE, 1992 – 2001.
CO-CHAIR, GOVERNOR'S YEAR 2000 PREPAREDNESS TASK FORCE, January 1999 – January 2000.
MEMBER, ENHANCED "911" COMMISSION, July, 1992 – 2001.

CHAIRMAN, NEW ENGLAND CONFERENCE OF PUBLIC UTILITIES COMMISSIONERS, July, 1992 – June 30, 1993.
MEMBER, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS COMMITTEE ON ELECTRICITY, 1992 - 2001.
MEMBER, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS SUBCOMMITTEE ON NUCLEAR ISSUES – WASTE DISPOSAL, 1998 – 2001.

CAMPAIGN CHAIRMAN, UNITED WAY OF MERRIMACK COUNTY, 2002-2003.
MEMBER, BOARD OF GOVERNORS, UNITED WAY OF MERRIMACK COUNTY, 1994 – 1998.

CO-CHAIR, POWER PLANNING COMMITTEE, NEW ENGLAND GOVERNOR'S CONFERENCE, 1995.
MEMBER, STATE NEGOTIATING COMMITTEE, 1988 – 2001.
MEMBER, TELECOMMUNICATIONS PLANNING AND DEVELOPMENT ADVISORY COMMITTEE, January 2001 – October 2001.
MEMBER, Board of Directors, Bow Soccer Club
1998 – Present.

NEW HAMPSHIRE BAR, Admitted to practice October, 1980.
MASSACHUSETTS BAR, Admitted to practice December, 1978.

PERSONAL: Married to Donna L. Patch (Schwartz) since 1983, three children.

NH PUC DECISIONS
PENNICHUCK WATER WORKS, INC.

Date	*Order No.*	*Docket No.*	*PUC Cite*	*Company*	*Description*
1992					
1/24/92	20,374	DR 91-055	77 NH PUC 39	Pennichuck Water Works, Inc.	Order Granting Petition for Temporary Rates
3/11/92	20,409	DE 92-046	77 NH PUC 125	Pennichuck Water Works, Inc.	Request for Waiver of NH Admin Rule PUC 201.05
4/22/92	20,451	DE 92-026	77 NH PUC 190	Pennichuck Water Works, Inc.	Report & Order on Procedural Prehearing Conference of 3/20/92 Denying Motion to Modify Report and Order 20,062 in DE 89-137
7/31/92	20,553	DR 91-055	77 NH PUC 393	Pennichuck Water Works, Inc.	Report Adopting Settlement of Permanent Rate Case Issues
8/18/92	20,570	DF 92-152	77 NH PUC 427	Southern NH Water Co., Inc.	Order Approving Extension of Short Term Debt Limit
9/22/92	20,610	DE 91-026, DE 91-083	77 NH PUC 559	Pennichuck Water Works, Inc.	Report Granting Franchises and Approving Permanent Rates
11/16/92	20,668	DR 91-107, DR 91-110	77 NH PUC 708	Pennichuck Water Works, Inc.	Report & Order re Pennichuck Petition for Authority to Engage in Business in Town of Amherst, and Southern's Petition to transfer certain assets to Pennichuck
11/16/92	20,670	Dr 92-177	77 NH PUC 718	Pennichuck Water Works, Inc.	NISI Order approving Petition to provide water service to Amherst Village District
1993					
2/8/93	20,753	DR 92-220	78 NH PUC 91	Pennichuck Water Works, Inc.	Suspension Order and Establishment of Prehearing Conference
2/16/93	20,764	DR 92-177	78 NH PUC 101	Pennichuck Water Works, Inc.	NISI Order approving Petition to provide water service to all but Souhegan Woods Area in Town

Date	Order No.	Docket No.	PUC Cite	Company	Description
					of Amherst
3/29/93	20,801	DR 92-220	78 NH PUC 197	Pennichuck Water Works, Inc.	Order granting Petition for Temporary Rates
4/8/93	20,808	DR 91-220 DR 91-068	78 NH PUC 218	Pennichuck	Report & Order granting Franchises and establishing Rates for two subdivisions, Maple Haven and Glen Woodlands
7/1/93	20,893	DR 91-220	78 NH PUC 331	Pennichuck Water Works, Inc.	Suspension Order
7/23/93	20,913	DE 92-185	78 NH PUC 362	Pennichuck Water Works, Inc.	Order NISI granting authorization to provide water service, charge rates, in portion of Town of Bedford
8/16/93	20,935	DR 91-220	78 NH PUC 444	Pennichuck Water Works, Inc.	Order Approving Certain Rate Case Expenses
9/22/93	20,997	DR 89-224	78 NH PUC 538	Southern NH Water Co.	Recoupment of Rate Case Expenses relating to Appeal of the Office of Consumer Advocate
8/3/93	21,026	DR 92-220	78 NH PUC 621	Pennichuck Water Works, Inc.	Petition for Rate Increase, Report and Order Approving Settlement Agreement, Granting Permanent Rate Increase and Establishing Cost of Common Equity
12/6/93	21,051	DR 92-220	78 NH PUC 701	Pennichuck Water Works, Inc.	Order Approving Rate Case Expenses
12/7/93	21,053	DE 93-138	78 NH PUC 707	Pennichuck Water Works, Inc.	Order NISI Granting Authorization to Discontinue Permanently its Right, Privilege and Franchise in Area Known as Shepard Hill
1994					
1/17/94	21,102	DRM 93-175	79 NH PUC 29	-	Order announcing PUC's intent to adopt new Uniform System of Accounts
2/10/94	21,125	DRM 93-157	79 NH PUC 58	-	Order devising procedures by which small water systems may obtain expedited relief

Date	*Order No.*	*Docket No.*	*PUC Cite*	*Company*	*Description*
8/31/94	21,224	DF 94-192	79 NH PUC 468	Pennichuck Water Works, Inc.	Order authorizing reissue and resale of $5.4M of tax exempt bonds
12/5/94	21,451	DR 92-220, DR 94-262	79 NH PUC 667	Pennichuck Water Works, Inc.	Order granting second step rate increase of 3.48% and increase in service fees
1995					
3/7/95	21,564	DR 95-046	80 NH PUC 124	Pennichuck Water Works, Inc.	Order granting 3-month extension of term of special rate contract w/ Anheuser-Busch, Inc.
7/1/95	21,681	DR 95-046	80 NH PUC 312	Pennichuck Water Works, Inc.	Order approving additional 2-week extension of term of special rate contract w/ Anheuser-Busch, Inc.
6/28/95	21,713	DE 94-253	80 NH PUC 394	Consumers NH Water Co. f/k/a Southern NH Water	Order approving petitions by two water utilities for amendment of tariff provisions as to main extensions, developers eligible for refund of advances
1996					
1/30/96	22,004	DF 95-362	81 NH PUC 73	Pennichuck Water Works, Inc.	Order authorizing issuance and sale of up to $8M in unsecured debt, to refinance other debt
3/12/96	22,054	DR 95-361	81 NH PUC 191	Pennichuck Water Works, Inc.	Order authorizing extension of service into previously unfranchised area of Town of Bedford, charging core system rates
8/26/96	22,287	DE 93-029	81 NH PUC 647	-	Order clarifying scope of docket examining least cost planning practices...
12/24/96	22,462	DE 93-029	81 NH PUC 1037	Numerous, including Pennichuck Water Works, Inc.	Order adopting recommended principles for least-cost planning practices...
1997					
3/25/97	22,532	DE 97-021	82 NH PUC 292	Pennichuck Water	Order authorizing extension of

Date	*Order No.*	*Docket No.*	*PUC Cite*	*Company*	*Description*
				Works, Inc.	service into previously unserved Town of Salem, charging core system rates
4/15/97	22,559	DF 97-051	82 NH PUC 347	Pennichuck Water Works, Inc.	Order authorizing issuance and sale up to $4M in unsecured debt, to finance construction of several capital projects
6/30/97	22,630	DR 97-058	82 NH PUC 483	Pennichuck Water Works, Inc.	Order suspending and scheduling prehearing conferences relative to petition for $1.856M rate increase
8/18/97	22,683	DR 97-058	82 NH PUC 602	Pennichuck Water Works, Inc.	Order granting 5.12% temporary rate increase, pending resolution of request for permanent increase to 26.98%
10/20/97	22,758	DR 96-227	82 NH PUC 735	Consumers NH Water Company	Order bifurcating proceeding--- settlement/sale of assets to Town of Hudson, and for those assets (outside of Hudson) to be acquired by Pennichuck
10/30/97	22,778	DR 96-227	82 NH PUC 775	Consumers NH Water Company	Order accepting settlement and stipulation with Town of Hudson
11/21/97	22,792	DE 96-227	82 NH PUC 814	Consumers NH Water Company, Pennichuck Water Works, Inc.	Order accepting settlement and stipulation whereby assets and operations outside Hudson will be purchased and acquired by Pennichuck
1998					
1/5/98	22,820	DF 97-225		Pennichuck Corporation/ Pittsfield Aqueduct Company	Petition for Approval of Acquisition - Order Scheduling Hearing
1/30/98	22,843 (revised)	DF 97-225		Pennichuck Corporation/ Pittsfield Aqueduct Company	Petition for Approval of Merger Agreement - Order Approving Merger
3/25/98	22,883	DR 97-058		Pennichuck Water Works, Inc.	Petition for Permanent Rate Increase - Order Approving Settlement Agreement and

Date	*Order No.*	*Docket No.*	*PUC Cite*	*Company*	*Description*
					Petition for Rate Consolidation
4/6/98	22,893	DE 96-227		Pennichuck East Utility, Inc./Pennichuck Corporation	Sale of Consumers New Hampshire Water's Non- Hudson Water System to Pennichuck East Utility, Inc. - Order Approving Pennichuck East Utility, Inc.'s Petition for Financing
4/13/98	22,898	DR 97-058		Pennichuck Water Works, Inc.	Petition for Permanent Rate Increase - Order Approving Rate Case Expenses
6/22/98	22,959	DF 98-090		Pennichuck Water Works, Inc.	Petition for Authority to Issue and Sell $450,000 of Unsecured Debt - Order NISI Approving Financing
10/26/98	23,044	DE 98-131		Great Bay Water Company, Inc./ Pennichuck Water Works, Inc.	Transfer of Water System - Order NISI Authorizing Transfer of Water System
11/30/98	23,071	DE 98-186		Pennichuck Corporation/ Pennichuck East Utility, Inc./ Pennichuck Water Works, Inc.	Petition to Transfer the Souhegan Woods Water System from Pennichuck East Utility, Inc. to Pennichuck Water Works, Inc. - Order Approving Procedural Schedule
1999					
1/6/99	23,100	DR 97-218		Pennichuck Water Works, Inc.	Franchise and Rate Request - Order NISI Approving Request for Franchise and Rates
2/1/99	23,133	DR 98-088		Pennichuck Water Works, Inc.	Order NISI Approving Tariff Revision and Miscellaneous Fee Increases
3/23/99	23,171	DE 98-186		Pennichuck Corporation/ Pennichuck East Utility, Inc./ Pennichuck Water Works, Inc.	Petition to Transfer the Souhegan Woods Water System from Pennichuck East Utility, Inc. to Pennichuck Water Works, Inc. - Order Approving Transfer
5/10/99	23,212	DE 98-191		Pennichuck Water Works, Inc.	Petition for Condemnation of Certain Real Property and

Date	*Order No.*	*Docket No.*	*PUC Cite*	*Company*	*Description*
					Appurtenant Fixtures Located at the Pheasant Lane Mall - Order Granting Condemnation
2000					
5/2/00	23,459	DW 00-067		Pennichuck Water Works, Inc.	Petition for Authority to Issue Securities - Order NISI Approving Issuance of Securities
8/21/00	23,544	DW 00-155		Pennichuck Water Works, Inc.	Tariff Revisions to Implement a Late Fee for Accounts Past Due - Order Suspending Proposed Tariff Revisions
11/8/00	23,588	DW 00-222		Pennichuck Water Works, Inc.	Petition for Exemption Pursuant to RSA 674:30 III from Local Ordinances, Codes or Regulations of the Town of Derry Pertaining to the Proposed Construction of a 225,000 Gallon Water Tank - Order Approving Procedural Schedule
2001					
1/10/01	23,619	DW 00-222		Pennichuck Water Works, Inc.	Petition for Exemption Pursuant to RSA 674:30 III from Local Ordinances, Codes or Regulations of the Town of Derry pertaining to Proposed Construction of a 225,000 Gallon Water Tank - Order Granting Exemption from Local Ordinances of Town of Derry
4/2/01	23,670	DW 00-285		Pennichuck Water Works, Inc.	Petition for Approval of Franchise Expansion and Rate Schedules - Order NISI Approving Franchise Expansion and Rates
4/20/01	23,683	DW 01-025		Pennichuck Water Works, Inc.	Connection Charges for New Customers Prehearing Conference Order
6/29/01	23,736	DW 01-081		Pennichuck Water Works, Inc.	Petition for Permanent and Temporary Rate Increase - Order

Date	*Order No.*	*Docket No.*	*PUC Cite*	*Company*	*Description*
					Scheduling Prehearing Conference and Temporary Rate Hearing and Suspending Proposed Tariffs
7/30/01	23,748	DW 01-081		Pennichuck Water Works, Inc.	Petition for Permanent and Temporary Rate Increase - Prehearing Conference Order
8/31/01	23,770	DW 01-081		Pennichuck Water Works, Inc.	Petition for Permanent and Temporary Rate Increase - Order Approving Temporary Rates
9/21/01	23,780	DW 01-025		Pennichuck Water Works,	Petition for System Upgrade Fee - Order Granting Fee

Indianapolis Star
October 15, 2000

ANOTHER VIEW

Janice A. Beecher

Options for water company ownership

The Indianapolis Water Co. is a longstanding example of water service provided by a private company. Private ownership brings many advantages to the water business, particularly in an increasingly complex and competitive environment.

Because they are not bound by geopolitical boundaries, private companies are better able to achieve regional economies of scale. They have clearer incentives for efficiency in investment, operations, service and pricing.

One of the chief advantages of private ownership is accountability through the Indiana Utility Regulatory Commission. Maintaining regulatory oversight in a monopolistic industry is essential. Investor ownership with regulation is clearly preferable to municipal ownership with contractual management, which is used for the wastewater treatment plant.

The absence of regulatory accountability under this model also means that cost savings, when achieved, are not necessarily reinvested in the system or returned to ratepayers.

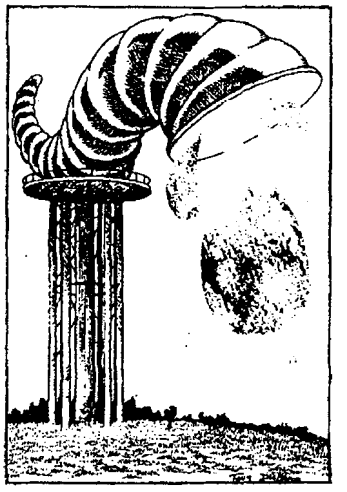
One of the central disadvantages of the private model, as recognized by the city, is that private assets can be bought and sold to any party, at any time, and at any price agreed to by investors. The prospect of IWC's sale by its gas company parent raises issues of local control and continuity of management, particularly if foreign interests are involved.

Given the vital nature of water services to the community, a thoughtful and open debate over water utility ownership is justified.

Transforming the water company into a municipal utility may not be in the best interest of the city or customers. The city does not have the capacity to take on the water-supply function, which means that it will likely turn again to contract operations.

It would lose access to private capital and the scale economies in operations and management that are achievable by larger utility companies. It also might succumb to the political pressure to suppress rates, which can lead to deferrals of essential investments, the need for subsidization, and inefficient water use.

If local control becomes the central issue, however, options superior to traditional municipal ownership are available. An excellent model is used in Louisville, where the water system is operated as a corporation wholly owned by the municipality. In fact, control can be accomplished with a 51 percent investment ownership share by the city in the water company vs. the 100 percent required to purchase the system outright. Other potential investors are the municipalities served by IWC.



Los Angeles Times Syndicate

The city of Lawrence, which recently sold its water assets to IWC, should want to invest in a seat on the system's governing board. IWC employees might also want a stake in their company, which would provide employees a well-earned voice in management and performance incentives.

Finally, many individual water customers likely would be willing to buy shares in the water system and have the opportunity to earn dividends from its operation.

The city of Indianapolis should welcome this opportunity to move beyond the rhetoric of privatization and municipalization, open the dialogue to all affected stakeholders, and work to craft a long-term regional solution that properly balances public and private interests.

Beecher, Ph.D., is principal of Beecher Policy Research Inc. in Indianapolis that specializes in the structure and regulation of the water industry.

PWF PROCUREMENT FORUM

The Rationale for Regulating Municipal Contract Services

by Janice A. Beecher, Ph.D.
Beecher Policy Research, Inc., Indianapolis

Privatization is not the same as competition. This obvious truth is easily lost, misunderstood, or conveniently ignored. Privatization can, and often does, take place with less-than-robust competition and lots of market failure.

Market failure can take many forms. Two important ones that apply to the case of water are the tendency of the market to form monopolies (denying choice and allowing the potential abuse of monopoly power) and the failure of the market to sufficiently provide public goods (including social equity, public-health protection, and environmental stewardship). One need only to peruse the pages of Public Works Financing to see how highly concentrated the water services market has become. Vivendi's U.S. Filter dominates the contracts market, just as American Water Works dominates the ownership market. But in unregulated markets, market concentration can give rise to antitrust concerns.

When the market fails, in the absence of public management, economic regulation is in order. Regulation is an imperfect substitute for competition. Even the most zealous regulators know that. But regulation is far superior to unfettered monopoly power. In reality, the so-called competition in the water business is oligopolistic (involving only a few dominant players), intermittent (occurring only at the outset of a long-term arrangement), unsustained (most renewals are renegotiated, not recompeted), and undisciplined (the rules of engagement are arbitrary).

THE PROBLEM WITH PARTNERSHIPS

There are two distinct models of privatization. One is the "pure" form (asset ownership with operations), regulated as utility monopolies. The other consists of various forms of unregulated contractual arrangements known as "public-private partnerships." The concept of partnerships emerged mostly as a political response to the pejorative use of "privatization" to describe all types of private sector involvement.

What could possibly be wrong with partnerships, which sound as American as apple pie? By blurring roles and responsibilities, partnerships can create problems of accountability. Government should govern, not partner with the governed. In contractual arrangements, the government is the principal and the private sector can act as an agent, but both will act in accordance with their own interests. The use and potential misuse of "concession fees" to make a deal happen is illustrative.

Principal-agent conflicts seem inevitable when local governments retain asset ownership but divest responsibility for operations. Decoupling ownership from management can lead to suboptimal solutions in the deployment of capital and operating resources, as well as create confusion about accountability when something goes awry. For example, who is responsible for complying with environmental regulations, resolving service complaints, and planning to meet future needs?

Contract operations with local oversight also perpetuates an already fragmented water industry. Principal-agent conflicts are fewer for investor-owned utilities because they own and operate their water systems. Investor-owned utilities also bring much-needed long-term private capital to the table, facilitate cost-effective regional solutions, and send more efficient price signals to customers.

ROLE OF REGULATION

Prominent industry analysts enthusiastically present benchmarks (usually simple ratios) comparing the performance of publicly owned and privately owned utilities. Privates usually look better. But what the analysts often fail to acknowledge is that the investor-owned utilities are regulated. Although profit motive

plays a role, the superior performance of private companies can be attributed in part to the discipline that regulation brings. (Strangely, these same "studies" are used to advocate privatization via unregulated contracts.)

What does regulation do? It provides a reasonably predictable system of accountability and incentives. When it works well, regulation balances the interests of shareholders and "captive" ratepayers (who have no real service options). Regulation also seeks long-term solutions that are in the public interest. The utility accepts ongoing regulatory oversight in exchange for a certificate of "public convenience and necessity."

On a practical level, regulation ensures the prudence of investments and expenditures, the reasonableness of returns, the justness of prices, the appropriateness of service terms, and timely dispute resolution (more so than litigation).

Despite substantial shortcomings, even traditional rate-of-return regulation provides significant performance incentives. The return is authorized but hardly guaranteed. As a policy instrument, the independent economic regulatory model is superior to micromanagement through lengthy, legalistic, and cumbersome procurement contracts. Regulation can be especially useful in the context of rising infrastructure costs, which clearly applies in the case of water.

Of course, cites can-and do-self regulate for their own utilities, as well as engage in "franchise" regulation. And they generally do not welcome economic regulation by the state (although limited jurisdiction exists for publicly owned systems in some states). But the evolving privatization market presents new challenges. Cities may lack the capacity to effectively regulate or protect their interests; worse still, cities may be unable to depoliticize the provision of water services (including critical investment and pricing decisions).

Paradoxically, expanding reliance on the private sector often requires more government, not less-as advocates might submit. The same challenges, incidentally, apply to the developing world where the capacity to govern-to regulate-must come before workable market solutions.

De facto Deregulation

A form of de facto deregulation occurs when the privatization process involves the circumvention of economic regulation. When Chattanooga threatened to condemn and seize control of its water system, it added insult to injury by simultaneously requesting proposals from private operators, who seemed eager to oblige. It is fair to question whether the public would have been well served by the added oversight burden on local government, the loss of regulatory accountability, and the shift away from a regulated return.

Another telling example is the failed attempt by U.K.'s Kelda to divest its assets to an unregulated cooperative-a "Friendly Society"-and operate the system under an unregulated contract for which oversight presumably would be more "friendly" than the scrutiny of the national regulator OFWAT. Kelda's proposal is a response to perceived "over-regulation" (that is, constrained returns) following the recent price-cap adjustment by OFWAT. The announcement is proving to be unsettling in the U.S., particularly with respect to Kelda's recent acquisition of Aquarion.

The divestiture of major operating responsibilities to the private sector clearly begs the question of whether independent regulatory review is needed. A long-term contract with an oligopolist (usually a domestic or foreign holding company) does not alter the underlying monopoly structure of the publicly owned utility or the profit-maximizing behavior of the long-term management contractor and its affiliates.

In both the U.S. and Britain, jurisdictional reform could address the dilemma of de facto deregulation (the circumvention of regulatory authority) by expanding oversight to include both private monopolies and public monopolies that divest management and operational responsibilities to the private sector.

Private contractors and public monopolies both are potential targets of regulatory oversight. Some contractual arrangements, such as build-own-and-operate or merchant facilities, have characteristics similar to investor-owned utility monopolies and economic regulation may be appropriate.

The monopoly power of public monopolies (namely, municipalities) vis-à-vis captive customers is a particular concern in the context of privatization. For example, under typical privatization arrangements, there is no real assurance that utility customers will actually realize the promised savings either through refunds or reinvestment in system improvements. Indeed, the privatizers often entice cities with the

promise of cash flow to address other local needs (such as adding police, modernizing schools or balancing budgets) and to avoid raising taxes or user fees.

Regardless of ownership, the monopolist who controls assets and sets prices to ultimate consumers should be regulated whenever the involvement of the private sector is substantial. Ideally, all water systems would be regulated to ensure a degree of comparability in cost accounting, ratemaking, and performance standards. Cities should be regulated whenever they depend heavily on the private sector for asset management and operations to the private sector. This would afford prudence review of contractual arrangements. Jurisdiction also could be extended to cover conflict resolution between cities and contractors.

Publicly owned systems also should be regulated as monopolies whenever they seek a "return" on their investment, compete with the regulated private sector, provide wholesale or retail service outside of geopolitical boundaries, own and operate vital transmission facilities, or simply want to provide a better level of accountability to captive customers during a period of rising costs and tumultuous industry change.

Regulation will allow all private providers (owners and operators) to earn a reasonable return, while also ensuring that customers will reap the benefits of least-cost management and operation of the system, regardless of how savings are achieved.

Regulatory Reform

Cities or privatizers are unlikely to embrace regulation. Why sacrifice local control or unrestrained profit potential? Time and again, that which intends to serve the public interest is unwelcome to parties with narrow parochial and private interests.

Regulation is difficult to endorse because it can look better on paper than in practice. The quality of regulation is uneven and, regrettably, some regulators may at times cater to political interests. The traditional regulatory model has been rightly criticized for failing to provide adequate incentives for efficiency and innovation. But all of these deficiencies can be addressed through diligent regulatory reform.

Regulators also are on a learning curve about how to regulate restructured and partially competitive industries. Contrary to popular myth, regulators have proven themselves to be highly adaptive to emerging markets for what are now known not as utilities but as "network" industries. Regulators step out of the way when markets become truly competitive (such as various telecommunications services and energy supply). Fundamental utility distribution functions, however, should remain regulated. And, based on its cost profile, the supplier of drinking water is the quintessential capital-intensive distribution utility.

Given current engineering and economic realities, and despite technological and market advances, major water utility operations simply are not competitive. At best, they are modestly contestable-meaning that municipalities can threaten condemnation of private systems and corporations can offer privatization to public systems. These forms of "institutional" competition are relevant, but hardly a robust form of competition.

Some elements of structured competition, within a broader regulatory framework, can and should be introduced to the water sector. Water rights can be traded. Wholesale water can be sold to smaller systems, allowing them to focus on distribution. Limited wheeling arrangements might emerge. Some service functions, such customer services (metering and billing), might be unbundled and deemed competitive.

But the economic and social benefits of restructuring in the form of large-scale vertical separations (unbundling of key functions), as well as horizontal convergence (such as water and energy mergers), are unclear. For now, monopoly with vertical integration is economical and consistent with the service mission of most water and wastewater utilities.

The restructuring priority for the water industry is the consolidation of the smaller and mid-size systems to achieve economies of scale and scope, which will produce much greater and more enduring social gains than fringe forms of limited competition. The greatest benefit of uniform regulation of the water industry would be the creation of a level playing field for restructuring, along with an appropriate blend of accountability and incentives. In due course, regulation may be the best thing that could happen to privatization. ■

COMMENTARY

J. James Barr, President & CEO
American Water Works Company, Inc.

Dr. Beecher should be commended for raising issues and expressing views that are extraordinarily important to the future of reliable water service. I would hope her commentary provokes the careful consideration this crucial public policy issue deserves.

In this era of increasing competition and deregulation in the energy and telecommunications industries, it is indeed running against the grain for Dr. Beecher to remind us of the valuable role that economic regulation can and should play in meeting the huge challenges facing the water and wastewater industries. These industries and the vital service they provide are subjected to unique economic forces. What I see in her remarks is a fundamental question that often seems lost in the maneuvering for position that naturally evolves from transition. That question is - what is the best long-term policy choice for the customer?

Obviously, there are examples of regulated asset ownership that are less than optimal, just as there are many good examples of government ownership and "partnering" arrangements. On balance, however, I am convinced that regulated asset ownership provides customers with the best combination of service provider accountability and incentives to invest and maintain necessary infrastructure on a long-term basis in a cost-effective manner.

Dr. Beecher's comments should cause recognition that, as yet, significant issues remain unresolved for an industry that faces massive capital investment requirements for infrastructure replacement and quality enhancements over the next 20 years. State economic regulators, legislators, public health officials, and responsible service providers share a responsibility to address squarely and objectively there tough, sometimes unpopular and always complex matters on behalf of those served and those to be served.

I believe that if this is done, the advantages of the model Dr. Beecher advocates will become more apparent. It is a model that has, in fact, functioned well to facilitate cost-effective capital attraction and service quality. I believe that model can and should be used on a broader basis in the future to meet the significant challenges this industry confronts.

Although Dr. Beecher may be voice crying in a deregulatory wilderness, it is a voice to which we should all take heed.

Robert E. Hebert, Vice Chairman
ECO Resources, Inc.

Dr. Beecher's conclusions seem to be built on a basic assumption that local and regional governments are generally incapable of regulating private contracts. She continually refers to the "circumvention of regulatory controls" instead of the more appropriate "substitution of regulatory controls"—a small but critical difference. She compares the inadequacy of local control to similar problems in Third World countries.

Bottom line, she presents a theory that customers are best protected from the inadequacies of their elected representatives by an efficient, well-trained bureaucracy which provides a higher degree of "reasonable predictability."

Her statement that "governments should govern, not partner with the governed" leaves me confused. If the goal of government is to enhance the role of the bureaucracy to achieve reasonable predictability, Dr. Beecher is right on target. But if the goal of government also is to provide high quality service to the governed at the lowest reasonable cost, she has shed very little light on the subject.

(Next month's Procurement Forum will feature arguments against price regulation of contract water services by Larry Chertoff, Executive Director, Water Industry Council, and David Mackensie, a 25-year participant in the private water industry.).■

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Review Necessary to Determine the Benefits of Ownership Changes for Public Water Utilities

Developed by the Maine Public Utilities Commission, June 2005 at the Request of the Utilities and Energy Committee

Douglas L. Patch
DLP-5
DW 04-048 - 4 Pages

I. SUMMARY

As a result of a March 15, 2004 request by the Maine Water Utilities Association, in April 2004, the Utilities and Energy Committee asked the Public Utilities Commission to produce a report on what review should be undertaken by a municipality or water utility before a decision is made to change the ownership structure of a public water utility.

In brief, we believe that the review of a change of ownership of a public water utility should be no different from the review conducted to determine whether a private company's ownership should be changed. In short, one must determine the costs and benefits. The real questions are how that determination is made and who should make the ultimate decision.

II. BACKGROUND

Before going into further detail, a brief description of the major ownership types that exist currently is warranted. There are three forms of ownerships for public water utilities: quasi-municipal districts; municipal departments; and private investor-owned companies. PUC regulation of the quasi-municipal districts and municipal departments is the same. Both of these ownership types are not-for-profit and their trustees are subject to some approval by district and municipal voters or are appointed by municipal officers as provided for in their legislative charters. As a result, the regulation of these utilities is fairly limited. Because of the profit motive, the regulation of the investor-owned utilities is more extensive. However, from a regulatory point of view, one form of ownership is not considered preferable to the others. The determining factor should be what is best for the ratepayers of the water utility.

One additional difference between a district and a municipal department is the area served by the water utility. In many cases, a district's service territory encompasses customers in more than one municipality whereas a municipal department usually serves customers only in the municipality itself.

III. AREAS OF REVIEW NECESSARY

1. Safe, Adequate and Reliable Water Service

While cost of operation is important, the ability to provide a safe, adequate and reliable source of water, now and in the future, should be the primary consideration of any utility. When looking at the choices of ownership, the question should be what entity will best be able to achieve this end. Potential new owners or operators need to demonstrate a thorough understanding of water utility operations and associated regulations. To demonstrate this, the new owners, or ultimate operators if they are different, need to show that they have the necessary technical ability or will

have it when they take over the water utility. We would recommend a review of the planned staffing of the water utility, including a review of the resumes or backgrounds of the people
being hired and the job descriptions of those positions that the new owners plan to fill.

In addition, we would recommend a review of any procedures that the new owners plan to implement upon taking over the water utility. The operational function includes an understanding of all the rules and requirements of the Federal Safe Drinking Water Act and other rules of the Drinking Water Program. Examples of specific requirements in the rules include the use of licensed operators and the testing of chemical levels in the water at certain times of the year. Failure to meet those rules could result in fines or other penalties to the water utility. The new operators must display thorough familiarity with the applicable rules.

2. Cost

After assuring that the new operators can deliver safe and reliable water, the decision makers can turn to costs. Often the major reason given for recommending a change is that the new owners can provide the same or better service at a lower cost. Making that statement and producing documents showing a lower cost can be done fairly easily. The test comes in verifying that the estimates used are valid. Did the new owners consider the full cost of operating the water utility, including all administrative costs? Even if the new owners plan to use existing staffing to fulfill the duties of the water utility, the expenses related to water utility functions performed by those employees should be allocated to the water utility; this ensures that there is no subsidization of water service by other parties. The same treatment should be given to the cost of facilities such as office buildings, garages, heavy machinery and other items shared with the water utility by the municipality or other entity that will direct its operations. It may be possible to reduce a water utility's costs if, as part of the planned ownership change, the utility can share facilities or staff with other entities, but care must be taken to allocate costs properly.

Labor is one of the largest costs of operating a water utility, after financing infrastructure needs. The same work needs to be done regardless of organizational structure. If the new entity can operate the utility with that entity's existing labor force in full or in part, it may be able to reduce the utility's operating costs on an ongoing basis. This is easier to accomplish when the utility is small and will thus impose a minimal burden on its new owner. For example, if a utility currently sends out monthly bills to 1,000 customers, adding an additional 100 customers might not pose any problems. However, adding an additional 1,000 customers and doubling the requirements of the billing system, might, because typically systems are designed for a certain maximum capability. This can also be said for paying the bills of the water utility – if this function only adds a few checks a month, those costs can probably be absorbed without causing an increase in the number of accounting employees. However, if the water utility itself has a full-time accounting staff that spends all of its time keeping the utility's books and records, it is likely that this full-time staff would be necessary in the future and as a result, no cost savings would be produced as there would be no downtime to allocate to other duties.

One other factor to examine before proceeding with a change in ownership structure is whether any of the savings could be generated without such a change. For example, if part of the savings results from shared equipment, the savings could be obtained by the existing water utility renting the equipment to or from the other

entity, reducing the costs to both. Purchasing agreements may be entered into with other water utilities or entities for chemicals and piping, which could save money for all the utilities involved without an ownership change. Metering and billing is another area where utilities might be able to share resources and save money.

3. Conflicting Interests

In choosing between a water district and a municipal department, the primary consideration should be the interests of the customers being served. In deciding what ownership form would best serve those customers, one needs to know the following:

- The geographical boundaries of the water utility
- The municipalities within the water district boundaries
- The number of water customers taking service in each municipality
- The number of taxpayers in each municipality

If the water utility serves many customers in a number of municipalities, it may be difficult for a department of one of those municipalities to effectively meet the needs of all those customers equally. Alternatively, even if all the water users are in one municipality but very few taxpayers receive water service, there would be questions of the taxpayers' needs overriding the needs of the water users.

One area of concern and debate that has arisen in the past that highlights the different interests is the use of land – there may be conflicting interests between a water utility with land holdings for watershed protection and a municipality that has an interest in greater recreational use of such property or use for other monetary gains. If the decision makers have equal responsibility to meet the needs of the municipality and water utility, it may be difficult to balance those interests.

4. Funding Availability

One other area that should be taken into account is the different sources of funding that may be available depending on the type of ownership. In some cases, one form of ownership may lead to more funding options than another. However, this tends to be on a case-by-case basis depending on the size and needs of the community. The major funding sources are the Maine Municipal Bond Bank, the Drinking Water Program's State Revolving Loan Fund, and U.S. Rural Development programs. Each has different requirements for different projects. Along similar lines, state law allows a municipal department a shorter repayment term on debt than it allows a water district.

IV. RESULTS OF PREVIOUS CHANGES

Historically, changes in ownership have taken place in Maine. However, it is not necessarily easy to ascertain whether the change is beneficial or not. One would have to examine any rate increases after the change and determine if they would have been necessary regardless of ownership (for example if caused because of infrastructure needs.) In addition, one would need to examine the operational efficiencies – the rates may be higher but if the quality of service provided is higher, the change would have been for the better. In one recent case, there have been several rate increases since a change of ownership but those increases were related in part to the existing infrastructure needs. There has not been enough time since the ownership change to evaluate whether the change has increased the operational efficiencies of that utility, which is the claim of the new owners.

V. CONCLUSION

In conclusion, before making a change in the ownership type of a water utility, decision makers should perform the same due diligence that is performed before entering into any business decision. What entity can provide the best service for the lowest cost while still representing the ratepayers of the water utility? Completing this review prior to the decision being made maximizes the probability that the decision will be in the best interest of the ratepayer.

Douglas L. Patch
DLP-6
DW 04-048 - 20 Pages

Regulatory Barriers to Water Supply Regional Cooperation and Conservation in New Hampshire

A Report to the New Hampshire Legislature
As Required by Chapter 64,
Laws of 2000

Prepared By:

New Hampshire Department of Environmental Services
&
New Hampshire Public Utilities Commission

August 14, 2001

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1.0 INTRODUCTION

This report fulfills the requirements of Chapter 64, Laws of 2000 for the New Hampshire Department of Environmental Services (DES) and the New Hampshire Public Utilities Commission (PUC) to conduct a study of regulatory structures which encourage or discourage regional cooperation in drinking water resources management and water conservation, and report back to the Legislature with recommendations by June 29, 2001.

There is increasing concern about periodic drinking water shortages in New Hampshire, especially in public water systems serving the southern tier and the seacoast regions of the state. The term "shortage" implies that the problem is entirely one of impairment of source yield, but supply-side management is only part of the problem. As demonstrated repeatedly during low rainfall periods over past decades, water demand peaks dramatically during dry spells, especially as a result of landscape irrigation, pointing to the need for more effective demand-side management.

The most recent drought during the summer of 1999 demonstrated that limited tools are available to water suppliers to curb customer demand, enforce conservation or to rapidly obtain backup or emergency supplies from contiguous water supplies on a short-term basis. The drought also provided increasing evidence of the need to develop more effective long-range water supply planning in areas where regional cooperation and conservation might jointly play a significant role in resolving water supply deficits. Furthermore, even when water systems have a surplus of water available, water conservation practices can provide meaningful environmental and economic benefits. Increased water use efficiency is also directly linked to improved energy conservation and pollution prevention. Also, as the number of users of New Hampshire's water resources for diverse purposes expands with time, the potential increases for conflicts between users for drinking water, industrial, commercial and agricultural applications, and environmental resource protection. For example, recent proposals for large groundwater withdrawals for new golf courses and a commercial bottling facility and public comments on the instream flow rules recently proposed by DES have demonstrated the need to continue to clarify the balance between the riparian rights of property owners for new withdrawals with the rights of other existing and potential future water users and the public trust.

In this context, DES and PUC have assessed what improvements to state policies can be made to further promote consideration of regional approaches and water conservation by New Hampshire's water suppliers.

2.0 STUDY APPROACH

A survey that covered both regional and water conservation issues was developed and distributed to water suppliers and planning organizations. The survey was designed to understand their viewpoints and to identify potential study issues. The survey was mailed to municipal and PUC-regulated water suppliers (150 surveys with 66 returns) and regional

planning entities (50 surveys with 30 returns), including Regional Planning Commissions, Economic Development Agencies, and Regional Development Corporations. Compiled responses to the survey served as the basis for producing issue papers to focus subsequent discussions on identified barriers to regional cooperation and conservation.

A working committee of stakeholders, labeled the Conservation and Regionalization Work Group (CONREG), was formed concurrently with the survey to provide additional focus on the issues defined. This committee was comprised of water suppliers (municipal and privately-owned), regional planners, representatives from the State's Office of the Consumer Advocate, and agency staff. CONREG met on three occasions to discuss issues on state policy, regulation and statute and to assist DES and PUC with the development of the conclusions and recommendations put forth in this report.

This report serves as a summary of this effort. Detailed supporting information is contained in two companion documents that are available upon request: (1) A working document entitled *Detailed Discussion and Analysis of Regional Water Supply Cooperation and Water Conservation Issues, May 3, 2001;* and (2) *Compilation of Survey Questionnaires on Regional Cooperation and Water Conservation, February 20, 2001.*

3.0 UNIVERSE OF REGULATED PUBLIC WATER SUPPLIES

Of New Hampshire's total population of about 1,236,000 people, approximately 62 percent (764,000 people) are provided water from community (residential customer base) public water systems while 38 percent (472,000 people) are served by private, residential wells (Figure 1).

There are 684 community water systems that range in customer base from 15 service connections (small housing developments) to 24,100 service connections (Manchester Water Works). These systems are regulated by DES under both federal and state Safe Drinking Water Acts for water quality, infrastructure integrity, and operator certification. One hundred nine of these community systems, serving approximately 16 percent (200,000 people) of the population, are also regulated for water rates and adequacy of service by the PUC because of their monopoly status (Figure 2).

Of the 684 community public water systems, 134 are owned and operated by municipal entities, including cities, towns and village districts. Municipal systems are not regulated by the PUC unless they provide retail water sales outside their municipal boundaries at a rate that is higher than the rate applied inside of their municipal boundaries.

Thirteen large water utilities provide water service outside their boundaries or core service areas on a wholesale basis (Figure 3). For example, Manchester Water Works provides water through wholesale agreements to eleven external services areas, including the Town of Derry and a portion of Hooksett (Figure 4). Twenty New Hampshire utilities serve significant numbers (greater than 10) of retail customers outside their boundaries (Figure 5).

In this context, "wholesale" means contract sales between communities, districts, or franchises, where the "receiving system" then sells water to retail customers, and "retail" means sales to individual metered service connections. Under current law, wholesale and same-rate retail sales by municipal systems outside of municipal boundaries are exempt from PUC regulation. Only the external sales of one municipal water system, the Manchester Water Works, are higher than internal rates and therefore subject to PUC regulation.

Figure 1
NH POPULATION SERVED BY PRIVATE AND COMMUNITY WATER SYSTEMS

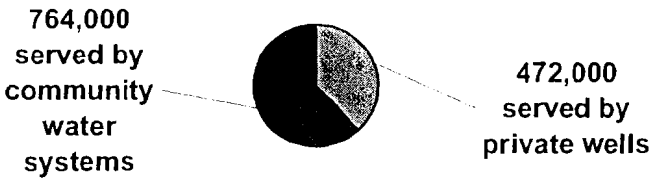
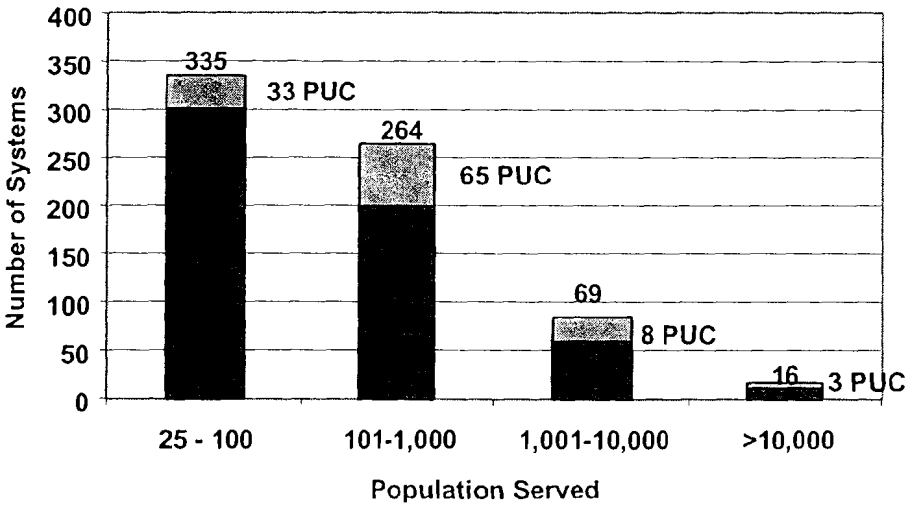


Figure 2
SIZE OF NH COMMUNITY WATER SYSTEMS



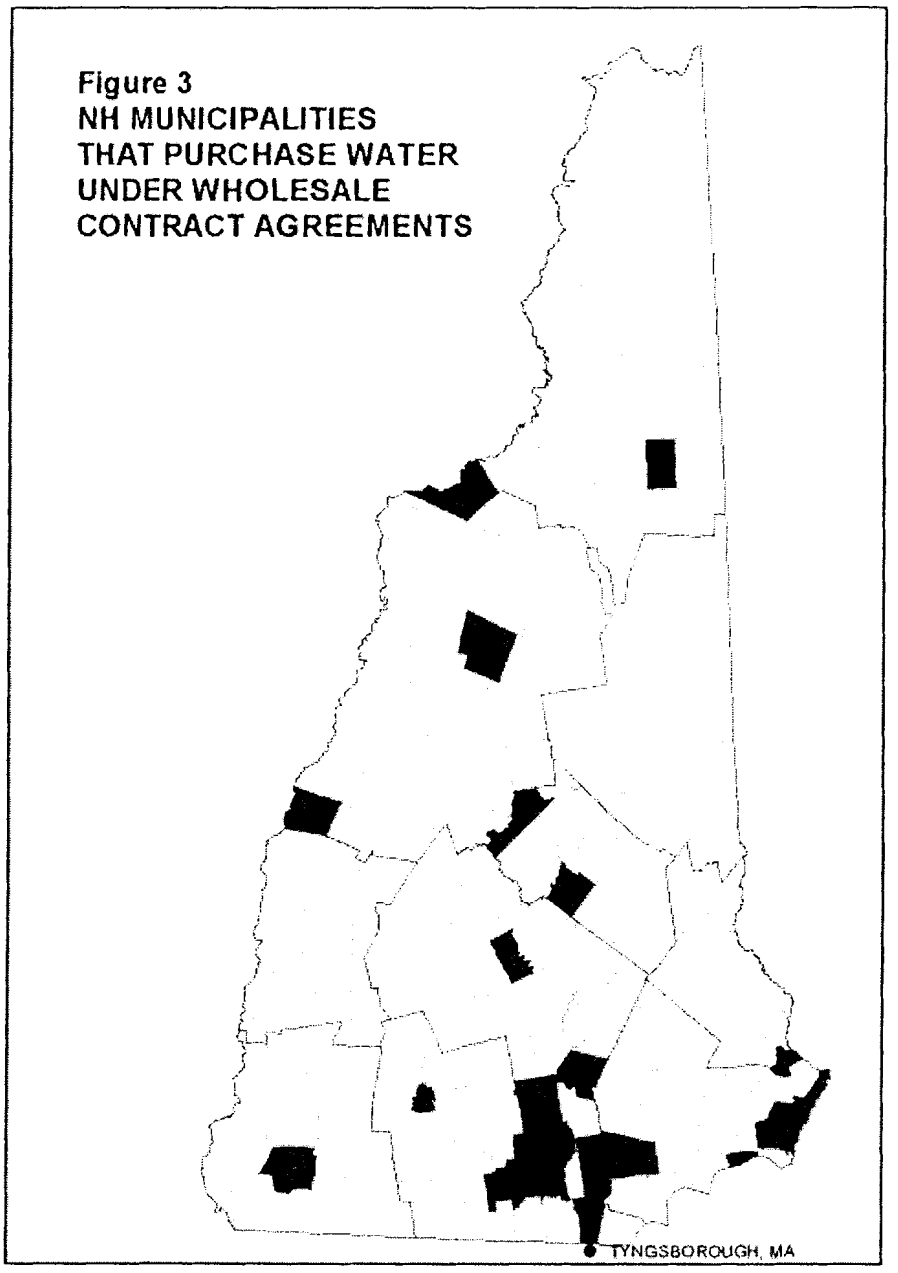


Figure 3
NH MUNICIPALITIES
THAT PURCHASE WATER
UNDER WHOLESALE
CONTRACT AGREEMENTS
TYNGSBOROUGH, MA

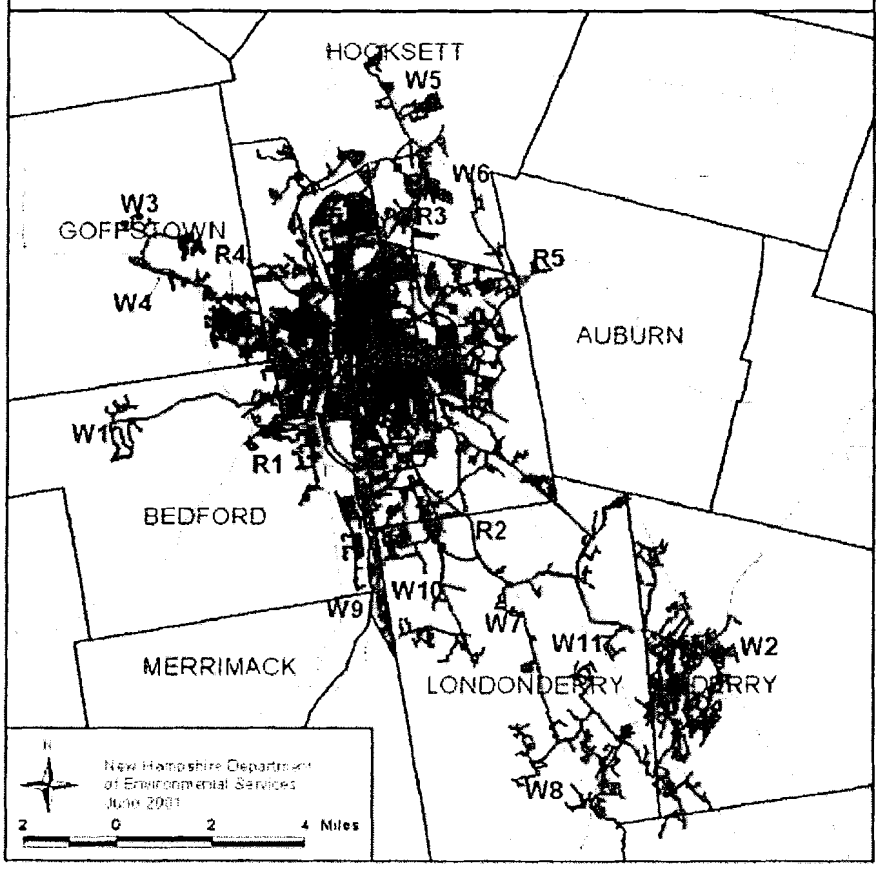
Figure 4 MANCHESTER WATER WORKS DISTRIBUTION AREA

RETAIL SERVICE AREAS
R1 Bedford
R2 Londonderry
R3 Hooksett
R4 Goffstown
R5 Auburn

Town boundary
Major Transportation route

Manchester Water Works
WATER DISTRIBUTION

WHOLESALE SERVICE AREAS
W1 Bedford, Powder Hill (Pennichuck)
W2 Derry, Derry Water Department
W3 Goffstown, Grasmere Water Precinct
W4 Goffstown, Hillsborough County Home
W5 Hooksett, Central Hooksett Water Prct
W6 Hooksett, Smyth Woods (Pennichuck)
W7 Londonderry, Cohas
W8 Londonderry, PEU Londonderry
W9 Merrimack, Bedford Town Line Route 3
W10 Londonderry, Brook Park
W11 Londonderry, Springwood Hills



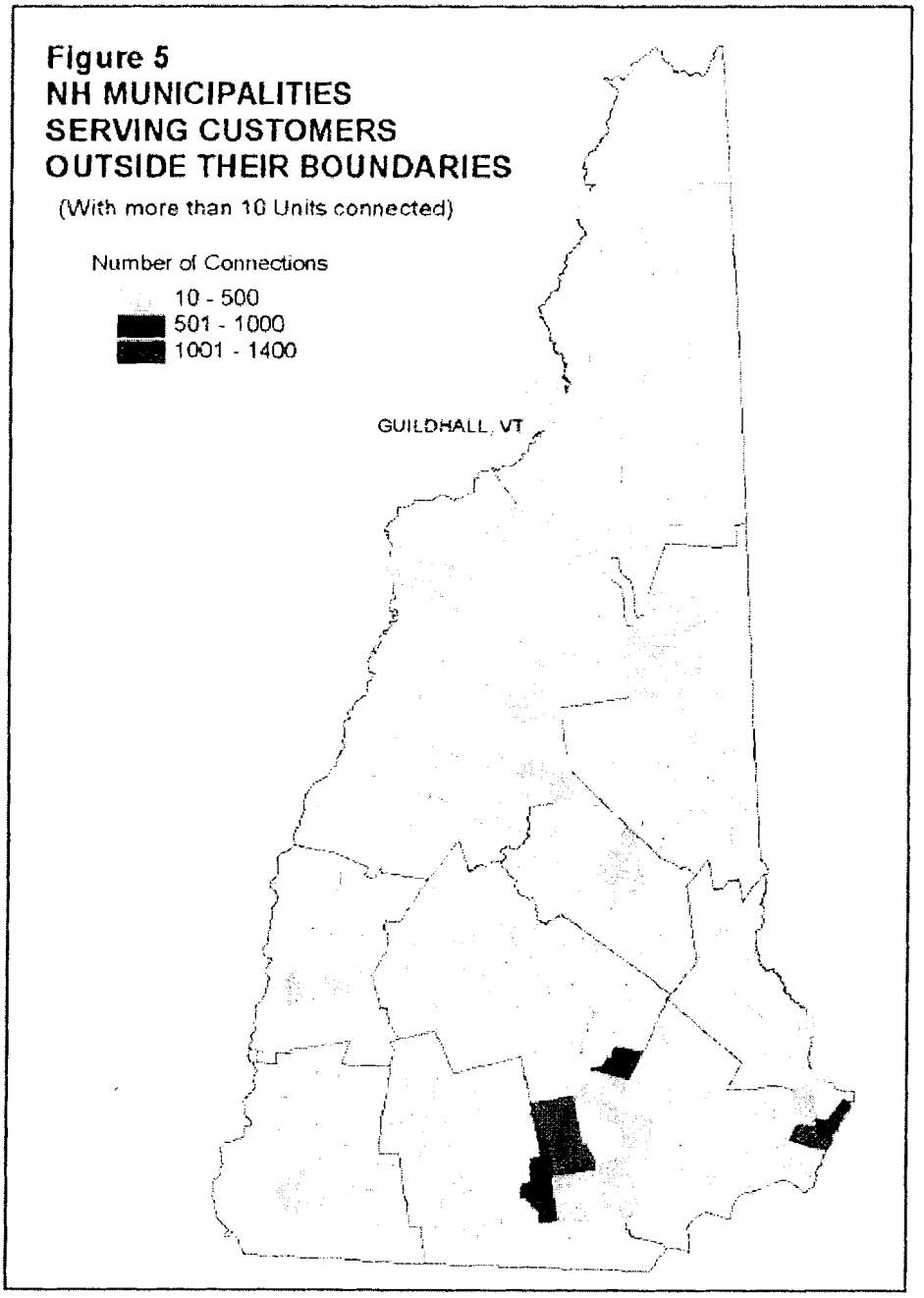


Figure 5
NH MUNICIPALITIES
SERVING CUSTOMERS
OUTSIDE THEIR BOUNDARIES
(With more than 10 Units connected)
Number of Connections
10 - 500
501 - 1000
1001 - 1400
GUILDHALL, VT

4.0 REGIONAL WATER SUPPLY COOPERATION

4.1 Overview

Most water systems operate independently of other systems except during water supply emergencies, even in New Hampshire's more highly developed regions. Furthermore, few interconnections exist in some areas, even to address short-term emergencies. For example, the Seacoast region includes thirteen major water supply systems. Despite the proximity of the service areas, only three interconnections exist for backup or emergency purposes. These interconnections exist between Seabrook and Hampton, Portsmouth and Rye, and Portsmouth and the Pease International Trade Port (Figure 6).

In 1990, a study entitled *Water Supply Study for Southern New Hampshire* was completed by the Southern New Hampshire Water Supply Task Force, which was formed in 1987 to develop "broad conceptual identification" of problems facing water supplies in that region of the state. The final report contained a series of recommendations to generally improve the reliability of public water supplies and advance regional water supply planning in southern New Hampshire. Over the last eleven years, a number of the issues raised in the report have been addressed, including:

- The operation, maintenance and long-term financial viability of new and existing developer-built community water systems have improved due to DES's "capacity assurance" regulations. These systems are also now more likely to be affiliated with established water utilities.

- Wellhead protection programs have been implemented for virtually all community public water systems.

- The criteria for siting new large groundwater withdrawals have been detailed in statute and rule to establish a regulatory mechanism for well development outside of the municipal boundaries of the water supplier. This serves to balance the need for new water supply wells with the potential impacts on the environment and existing water users near a well site.

- The Legislature has authorized a Seacoast Water District, comprising of voluntary participation by communities in southeastern New Hampshire to address "intersectional distribution, source location, and other issues related to water resources" (Chapter 42, laws of 1995). The District has not convened to date, and the scope of the District was not defined further, however.

However, one key recommendation not implemented was to develop "an overall planning process to meet the potential water supply deficits in a logical manner through the use of regional water supply plans compiled by Water Utility Coordinating Committees." The Task Force recommended that these committees be created by statute to operate in close conjunction with Regional Planning Agencies to develop and help implement regional

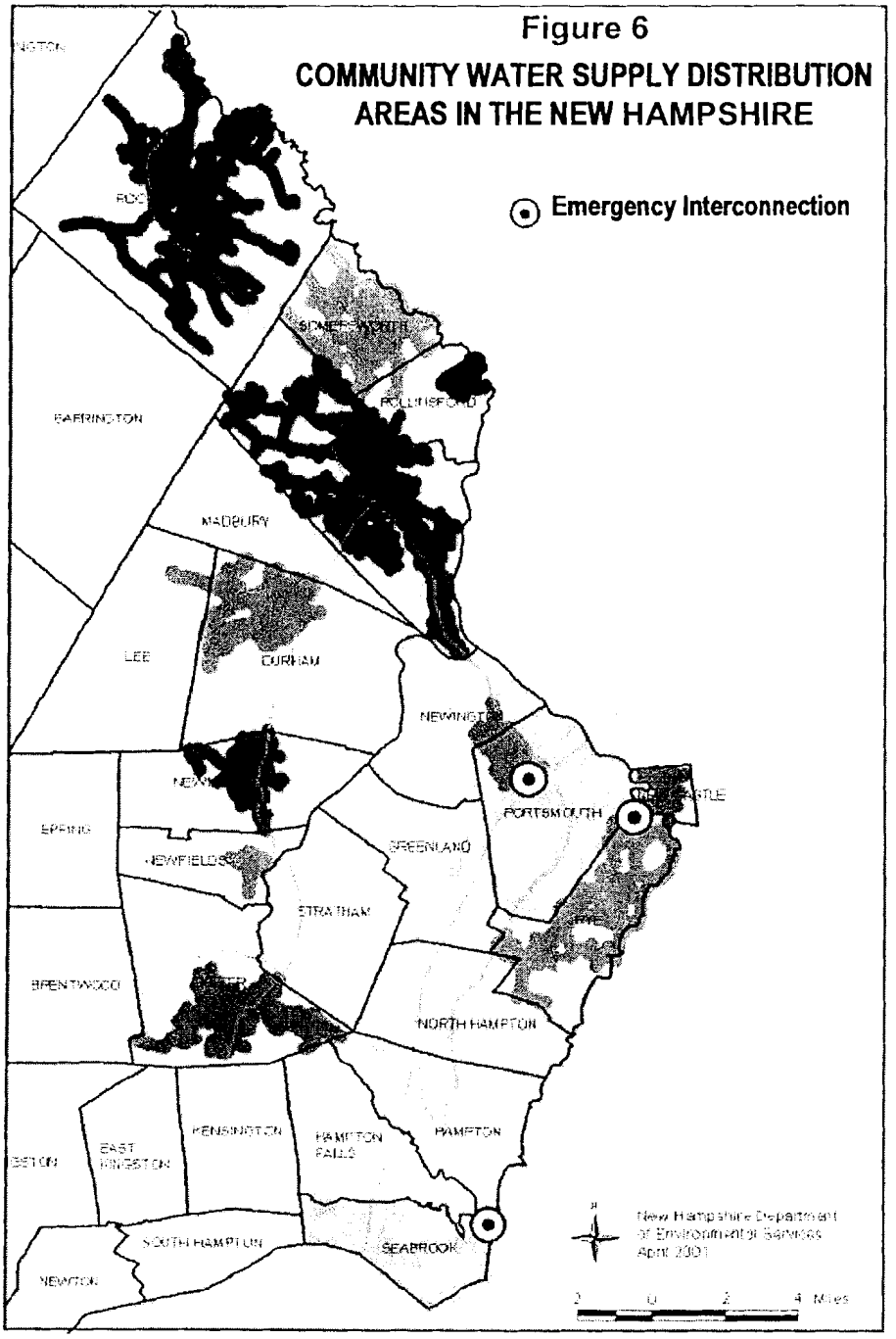


Figure 6
COMMUNITY WATER SUPPLY DISTRIBUTION
AREAS IN THE NEW HAMPSHIRE
Emergency Interconnection
FARMINGTON
MADBURY
LEE
DURHAM
NEWINGTON
PORTSMOUTH
GREENLAND
NEWFIELDS
STRATHAM
NORTH HAMPTON
HAMPTON
HAMPTON FALLS
KENSINGTON
EAST KINGSTON
SOUTH HAMPTON
SEABROOK
NEWTON
New Hampshire Department of Environmental Services
April 2001
Miles

plans. These committees were never formed and the proposed regional water supply plans were not created. Consequently, many of the needs and recommendations in the 1990 report are still applicable today and were considered in the assessment below.

4.2 Regional Water Supply Cooperation Issues Identified

The major issues identified by DES, PUC and CONREG are as follows:

- As highlighted in the 1990 report, there is a need to develop a more systematic approach to plan for and consider regional water supply issues.

- Many municipal water suppliers have a parochial view of their current water supplies and will not readily extend service beyond municipal borders even when this might be part of the "optimum" alternative from a regional perspective. For example, some municipal water suppliers have refused to serve customers beyond their boundaries even to address relatively small, localized water shortages or quality problems in neighboring municipalities; other municipalities have contested water development within their boundaries by public utilities and others. These decisions are frequently driven by (1) the desire to ensure that water is available for future growth within a municipality with existing surplus supply and (2) the competitive advantage that ample water supply provides to attract future industrial and commercial development to communities with surplus capacity.

- This parochial view is fostered by uncertainty about the availability of future sources of supply. This uncertainty is focused in three areas:

  - Public Trust vs. Riparian Rights: RSA 481:1 expresses the State's role as the trustee of all waters within it borders, and that these waters shall be managed and conserved for maximum public benefit ("the Public Trust Doctrine"), broadly defined as water quality and quantity sufficient to protect the public's interest. The right to use water in New Hampshire is also based on the Riparian Doctrine, which generally means that property owners have the right to reasonable use of water resources on or abutting their property, and historically deeded water rights. There is uncertainty about when a riparian use may be limited by the state's need to protect the public trust.

  - There has not been a hierarchy of water users established by law, so that one user's riparian right to water is equal to another's. For instance, current law treats water needed for recreation or commercial purposes such as bottled water, the same as drinking water supply.

  - There is uncertainty about long-term future supply due to state regulation of surface and groundwater withdrawals that ensures the protection of existing water resources and users.

- Emergency interconnections do not exist in most locations, even where they are viable

and add to the overall reliability and integrity of individual water systems and a regional water supply as a whole.

- Regulation of external municipal water rates under RSA 362:4 was relaxed in 1989 by the exemption of wholesale intermunicipal agreements and external rates equivalent to those within municipal boundaries. Despite this, many municipalities are still reluctant to serve external retail customers.

- Water utilities regulated by the PUC could usefully participate more as active partners in state and regional planning studies and source development efforts. These utilities, in turn, would benefit from greater assurance that costs of these planning efforts incurred in the public interest will be rate-recoverable.

5.0 WATER CONSERVATION AND EFFICIENT USAGE

5.1 Overview

In communities across New Hampshire, particularly in the southern tier as noted in Section 4, the available water supply is becoming more limited with increased growth and with greater regulation to resolve potentially competing uses. Water resources are increasingly stressed and the regulatory requirements for new source development continue to become more complex as the right balance is sought between existing and future water supply needs for different purposes and environmental concerns. Consequently, demand-side management of public water suppliers through water conservation and efficient water usage will become increasingly important with time.

Water resource management is vital to maintaining a sustainable community in part because:

- Fresh water is a finite, precious resource with competing demands for its use.

- Efficient water usage improves both energy efficiency and pollution prevention efforts.

- The capacity of surface waters to assimilate wastewater is limited and can be better utilized by reducing wastewater flows.

- The development and treatment of new water supply sources and the construction of additional wastewater treatment facilities is expensive. These costs can be lowered by decreasing capacity requirements through water conservation and efficient water usage.

Water conservation and efficient water usage generally includes any reduction in water losses, waste, or use. Efficiency in water usage aims at providing the same end use benefit of water, but using less water to achieve it. For drinking water suppliers, these measures may

include planning, public information and education programs, water metering to account for water use and reduce unaccounted for water, rate structures that encourage efficient or reduced water usage, requiring or retrofitting more efficient water fixtures, and offering programs or financing vehicles to assist customers in choosing more efficient water fixtures.

In Appendix I, New Hampshire statutes and administrative rules that have potential significant impact on the implementation of water conservation practices are summarized and positive and negative impacts of each provision are identified. These requirements generally foster a regulatory framework that encourages water users to practice efficient water usage. However, some also create unintended disincentives for water conservation measures.

5.2 Water Conservation Issues Identified

The major issues identified by DES, PUC and CONREG are:

- New Hampshire does not have a comprehensive legislated policy regarding water conservation that overlays all programs affecting the planning and management of the state's water resources.

- Water demand management can have dramatic effects on water consumption without reducing customer end use enjoyment and functionality. New or retrofitted water fixtures or appliances use much less water and electricity than older models. For example, studies show that new washing machines reduce water usage by 36% and energy consumption by 60%. New Hampshire's electric utilities have implemented rebate programs that allow some customers to purchase new water and energy efficient washing machines they would not otherwise have purchased. Once introduced into the market, the unit price of these machines generally becomes lower as popularity and sales increase, thus transforming the market for such products. But rebate programs do not reach all customers, require charges to non-participants, and suffer from the problem of free riders. This has spurred some designers of these types of programs to look for other ways of overcoming market barriers to customer purchase of efficient products. Also, concerns have been raised in other states about separate utility-by-utility programs, and utility disincentives to optimize usage reduction. Vermont has created a statewide energy efficiency utility to manage all electric and gas utility demand side management programs.

- Traditional ratemaking for PUC-regulated utilities provides strong financial incentives to promote greater water usage, rather than water conservation or efficiency that would reduce water use. This is because rates are set to recover a particular revenue requirement, and once rates are set, additional sales tend to increase income faster than costs (increasing net income), and conversely lower sales tend to depress income faster than cost savings (lowering net income). Only when supplies are short and large investments in new plant would be needed absent usage reduction is there an incentive to hold down usage. If a water conservation rate structure or other water efficiency program was adopted by a utility, the volume of water sold would be reduced and the utility would

typically realize less revenues and accordingly smaller profits. This provides a strong disincentive for regulated utilities to implement conservation efforts unless there is a shortage of supply associated with a particular water system.

- Certain common rate design structures, such as declining block rates, provide incentives for customers to increase usage, regardless of the efficiency of their usage. Other rate designs exist that tend to reward efficiency. Rate design is a complex art, with many factors that need to be balanced. The impact on utility earnings is one component.

- In the electric and gas industries, a number of approaches have been tried to overcome the utilities' economic disincentive to lowering water use. For instance, in some states regulated utilities are provided opportunity for a greater rate of return on the successful implementation of water conservation practices than for other capital investments. Utility commissions, including the PUC in New Hampshire, have provided incentives for successful energy reduction efforts of electric or gas utilities. However, these forms of incentives or premiums on the rate of return are typically not large enough to overcome the earnings-reduction effect of usage reduction under the current method of computing revenue requirements. In some areas, state regulators have provided "lost base revenue recovery" to hold a utility harmless from efficiency-program usage reductions. These have been criticized for increasing rates to non-participants, a problem that is especially difficult when present rates are high, future-looking costs of a utility are declining, but such recovery would dampen the decline in rates. Other states have used alternative rate setting methods, such as the "revenue per customer cap" used for Pacificorp in Portland, Oregon, which delinks the profits of the company from the customers' usage. Such delinking may be the only way to remove the disincentive to use reduction, but it is a new approach not in general use.

- While there is a long history of efficiency and demand management programs in the energy area, there is less experience with water utility demand management, particularly in the Northeast. Water conservation measures that are eligible for rate reimbursement for PUC-regulated utilities are not always clearly identified. Establishing a pre-approved list of water conservation activities might eliminate one step in the regulatory process, thus encouraging water suppliers to implement water conservation activities. Also, in the energy area the PUC has recently begun focusing on the specific barriers confronting customers who wish to install more efficient fixtures, but do not do so, even with rebate programs and other incentives. The PUC has directed two electricity utilities to pilot a Pay As You Save (PAYS) approach to enable customers to leverage their own funds to install electricity saving devices, with upfront financing by the program, paid back over time on the bill. Such an approach might also be considered in the case of water utilities, particularly where there is concern about raising customer rates to pay for efficiency measures for participating customers.

- Water conservation pricing needs to be carefully implemented to ensure that other negative environmental or public health impacts do not occur. For example, if a utility implements water conservation rate structures that encourage efficient water use,

residential water users may opt to construct private wells in lieu of practicing conservation, possibly resulting in lower quality water supplies for these households.

- During drought periods when local water use restriction moratoriums are in effect, chronic violators of moratoriums are a persistent concern in many communities. Some customers make the economic decision to pay fines and continue high water usage, for example, by lawn watering. Potential solutions may include:

  - Substantially escalating fines and penalties imposed by regulated utilities for chronic violators during periods of critical water shortages.

  - The state establishing a process that a water utility can utilize to seek formal support by DES or PUC for implementing water use restrictions when potential water supply shortages are predicted.

  - The state developing and promoting a model ordinance or bylaw with language on municipal water use restrictions.

- Due to federal requirements, loans from the Drinking Water and Clean Water State Revolving Loan Funds cannot be used for many potential water conservation projects such as improvements that are owned and operated by private individuals and companies. There is a potential opportunity to provide financial incentives for water conservation and efficiency projects that cannot occur under current federal requirements.

6.0 RECOMMENDATIONS

Regional Water Supply Cooperation

Recommendation 1: **By December 31, 2001, DES and PUC should reconvene the Southern New Hampshire Water Supply Task Force to discuss the recommendations contained in this report and the *1990 Water Supply Study for Southern New Hampshire.*** Voluntary participation in regional water supply planning by water suppliers and regional planners is critical to the long-term management of New Hampshire's water resources. This group is a good vehicle to further this process.

Recommendation 2: The Legislature has authorized a Seacoast Water District, subject to the provisions of RSA 53-A, to enable voluntary participation by communities in southeastern New Hampshire to address drinking water issues (Chapter 42, Laws of 1995). **DES and PUC should convene possible District members to discuss ways they could to work in conjunction with the Southern New Hampshire Water Supply Task Force on issues raised in this report.**

Recommendation 3: **By December 31, 2001, PUC should recommend legislation to enable PUC to authorize rate premiums for intermunicipal retail water service to**

provide additional incentive for municipalities to serve retail customers outside of local boundaries. The willingness of municipalities to serve in this manner is important to relieve water quality or quantity problems at individual residential or small public water supplies. The rate premium charged to external retail customers could be capped at a percentage over that charged to internal customers. Issues requiring consideration also include prospective application of rates, grandfathering of current external customers, addressing free riders, and standards for measuring public good.

Recommendation 4: **State grant and loan programs should be enhanced to further encourage regional approaches by the following actions:**

- By December 31, 2001, DES should propose legislation to expand the eligibility for state-aid water supply grants to include projects with significant benefit to regional water supply needs, including system emergency interconnections. (These grants are now only available for surface water treatment rule compliance projects.)

- By December 31, 2001, DES should propose legislation to ensure that regional water supply needs are considered by making it a condition of receiving grant and loan funds for municipal water supply infrastructure projects.

- By December 31, 2001, DES should propose changes to state-aid grant and loan program administrative rules to provide higher priority for projects that address regional water supply needs.

- By December 31, 2001, DES should develop cost estimates of the fiscal impacts of the proposed changes on state and federal funding sources.

Recommendation 5: **By December 31, 2001, DES and PUC should propose legislation to establish a statutory process to provide for mandatory intermunicipal extensions or connections under certain critical or emergency conditions, such as when severe water supply quantity or quality problems exist.** This could include a petition process to DES and/or PUC such as the procedure that currently exists under RSA 482:79 for lake level determinations at dam-controlled impoundments, under which DES must conduct an investigation, make a decision, and issue an order.

Recommendation 6: **By December 31, 2001, DES should propose legislation to develop a process for the Legislature to assess further the potential conflict over competing water uses.** The Public Water Rights Study Committee established by the Legislature under Chapter 148, Laws of 1990 stated that "there is a need for a direct and comprehensive statutory statement of policy asserting the reach of the state's public trust interests and establishing clear directives for regulating withdrawals from public waters." A legislative study committee should be established to (1) clarify the hierarchy of water uses which would enable determination of the "most beneficial use" for a given available water source, including consideration of environmental concerns, such as in-stream flow protection, and (2) define a process by which new water users would be required to develop the "least impacting

alternative", to require water users to collaborate on regional water management issues. Collaboration with area Regional Planning Commissions may also facilitate regional water strategies.

Recommendation 7: **DES and PUC should develop a procedure by which a PUC regulated utility may propose and obtain pre-approval from both the PUC and DES to participate in advanced regional technical planning, including new source development.** The goal of the pre-approval would be to obtain agreement on the scope of the project to be undertaken and the portion of the project which would be rate recoverable. To allow rate recovery before improvements are used and useful, legislative changes to RSA 378:30-a, popularly known as the anti-CWIP statute, would be required.

Water Conservation

Recommendation 8: **Establish a formal state policy on water conservation for all state operations and programs that affect the planning, use and management of the state's water resources by the following actions:**

- By December 31, 2001, DES should recommend to the Governor an executive order to establish this policy.
- By December 31, 2001, DES should recommend legislation that integrates water conservation requirements into all applicable state statutes.

Recommendation 9: **By December 31, 2001, PUC should propose legislation that amends RSA 378, Rates and Charges, to allow the PUC to provide more incentives for PUC-regulated utilities to promote water conservation practices.**

Recommendation 10: **By December 31, 2001, PUC and DES will establish a mechanism to support water-use restrictions during times of drought and create a model ordinance for municipal water use restrictions. Such a mechanism may include increased fines or the ability to terminate water service of offenders.**

Recommendation 11: **By September 30, 2001, DES and PUC Commissioners should express to the Congressional delegation and EPA the need for the State Revolving Loan Fund eligibility requirements to be expanded to enable funding of end user water conservation projects.**

Recommendation 12: **DES and PUC should jointly develop a public outreach initiative for water conservation that may include advertisements that can be aired on television and radio, and placed in print media for implementation in the summer of 2002. DES and PUC should also investigate funding mechanisms for this initiative.**

Recommendation 13: **By December 31, 2001, PUC should convene a proceeding open to all water utilities and other interested persons, to consider innovative water utility**

ratemaking structures, rate design approaches, establishing a pre-approved list of water conservation activities that are eligible for rate reimbursement, and establishing efficiency programs, such as PAYS or other such assistance to consumers and develop policy recommendations for implementation, at least on a pilot basis, by December 31, 2002.

Appendix I
Statutes and Regulations that Impact Water Conservation Practiced By Public Water Suppliers Regulated by DES and PUC

Description of Existing Statute/Regulation	**Impact on Water Conservation**	
	Positive	*Negative*
RSA 378 – Rates and Charges (PUC)	Not applicable.	PUC regulated utilities are permitted by law the opportunity to earn a reasonable rate of return on their investment. The rate structure is determined by establishing a revenue requirement based on a utility's capital expenditures, a reasonable rate of return, the operating and maintenance costs of the system, and the volume of water sold. If a water conservation rate structure was adopted by a utility, the volume of water sold would be reduced and the utility would thus realize less revenues and smaller profits. This provides a strong disincentive for regulated utilities to implement conservation efforts.
RSA 378:30-b - Conservation Investments; Included in Rates - (PUC) Allows recovery of costs related to conservation for PUC-regulated utilities. Cost or value can be included in rates regardless of whether the utility's capital improvement or program is implemented in or on the utility's premises or at the location of the water user.	Ensures that water and energy conservation is part of a PUC rate regulated utility's rate making policies. The statute allows for the cost of water conservation plans to be recovered by water companies.	PUC regulated utilities have indicated that the state needs to definitively list or define the specific water conservation measures (infrastructure and administrative measures) that are allowed to be incorporated into ratemaking. Utilities have indicated that water conservation measures can result in costs that they are not guaranteed will be recoverable through ratemaking until PUC approves them. This typically is after the expenses are incurred. Water suppliers indicated that this puts them at a financial risk, and discourages them from aggressively implementing conservation measures.

Appendix I
Statutes and Regulations that Impact Water Conservation Practices of Public Water Suppliers Regulated by DES and PUC (continued)

Description of Existing Statute/Regulation	Impact on Water Conservation	
	Positive	*Negative*
Administrative Rule Puc 604.08 – Conservation (PUC) Mandates that each PUC-regulated utility adopt appropriate measures to foster and promote water conservation in its operations and by its customers.	This rule creates an underlying obligation for PUC rate regulated utilities to incorporate water conservation practices into their operations.	Performance standards and the measurement and reporting of the effectiveness of conservation measures being implemented is not required. Therefore, it is difficult to determine if water utilities are complying with this requirement.
Administrative Rule Puc 604.07 - Shortage of Supply (PUC) Provides PUC-regulated water utilities flexibility to enforce water conservation among users.	Allows a PUC rate regulated water utility to modify water conservation plans with just 24-hour notice. This allows water companies to equitably apportion its available water supply among its customers and maintain public health and safety.	This rule does not present any barriers to implementing water conservation practices.
Administrative Rule Puc 605 – Meter Testing and Accuracy (PUC) This regulation requires that PUC rate regulated utilities install and maintain water meters.	Metering all consumption makes customers pay based on usage and this encourages conservation. With accurate knowledge about current demand, the supplier can more effectively identify potential water savings, assist specific users to implement water saving measures, thereby providing the opportunity to reduce overall system demand and plan efficiently for system growth.	This regulation is limited to PUC rate regulated utilities only.
RSA 485:3 and 485-C – New Hampshire State Drinking Water Act and Groundwater Protection Act Requires that anyone developing large groundwater withdrawals (> 57,600 gallon over any 24-our period) from a wellhead installed after July, 1998 develop a water conservation plan and provide a demonstration of need for the requested withdrawal volume. The rules also requires metering of, and accounting for, water uses associated with all new withdrawals.	Requires that a water user demonstrate a need for a new large groundwater withdrawal by the development and implementation of a water conservation plan.	These laws do not require that a demonstration of need or a conservation management plan be developed prior to developing a new source of water other than large groundwater withdrawals.

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THE EDITORIAL

Today's Quote:

Private property is held sacred in all good governments, and particularly in our own.

ANDREW JACKSON

Editorials

Property rights

Does Pennichuck have any?

ON WEDNESDAY the state Supreme Court denied Pennichuck Corporation's claims that Nashua had made an illegal taking of its property. The court ruled in part, quoting the Superior Court, that "all property is held subject to the sovereign's exercise of the power of eminent domain."

In other words, citizens may use property they have acquired through their own labor only so long as the state allows them. Ultimately there is one owner of all property in New Hampshire — the state.

James Madison said in 1829, "The personal right to acquire property, which is a natural right, gives to property, when acquired, a right to protection, as a social right."

Not anymore.

State law governing electric, gas and water companies states that municipalities may take the property of these private businesses by eminent domain upon a two-thirds vote of the public board and a confirming vote by the people. That vote by the people shall constitute "a rebuttable presumption that such action is in the public interest."

The law needs to be changed to set a higher burden of proof that a taking is in the public interest.

Legislators already are tinkering with state laws to make it more difficult for local governments to take private property. They must not forget that utility companies such as Pennichuck also are private property and are no less deserving of protection than are citizens' homes.

NH Dems get tough

Michigan quakes in its waders

AFTER MORE than a year's worth of effort on the part of Democrats in Michigan and across the country to replace the New Hampshire primary — osten-

beat guilty whites into submission. But no, in their whiny letter to the party's Commission on Presidential Nomination Timing and Scheduling they *agree* with

Democrats back for reasons the

JONAH GOLDBERG

IN WASHINGTON, soft-spokenness is often confused for intelligence and subtlety. We're so accustomed to shouting that when someone whispers we assume there must be something more thoughtful in the offing. A case in point is Harry Reid, the Senate minority leader. Just the other day told reporters, "There's a cloud hanging over the W House." Then, to clarify t scure metaphor, he added gravely, "It's really a storm

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as the White House. Never
mind he voted for the remo
of Saddam in 1998

The end of free enterprise in New Hampshire

APPARENTLY ANYONE can run a business. No longer is the field left to business managers and entrepreneurs. Every critic, politician and general pontificator wants to get in on the act.

No longer content with setting minimum standards and then taxing the profits, politicians and their associated chattering classes have begun to second guess management. Perhaps the government is such a model of stellar management practices that we need to let them bring their renowned efficiency to bear on private business as well.

The oil companies are at the top of everyone's list. Clearly they're making too much money and providing too much money to government treasuries. They make a healthy profit and pay four or five times that amount in taxes. Gas taxes, excise taxes, profits taxes, royalties. Yet the government wants more. Except they also want them to make a smaller profit at the same time.

Recent disasters wiped out gas supplies, but demand stayed very high. As we learned in high school, that leads to higher prices — and lower prices when supply comes back up, as it has recently. Yet the government is annoyed by the price spikes. Perhaps with government regulators in charge the troublesome law of supply and demand can simply be repealed.

While some companies cause problems by making too much money, others haven't figured out that advertising is a bad idea. A lot of companies advertise their products thinking that they'll sell, make more money, and make the product economically viable.

CHARLES M. ARLINGHAUS

But working on the theory that a profitable drug company and its managers must be mistaken, some now want to ban drug advertising as a way to save the company money and reduce drug costs. Now why didn't the company think of that? With oversight by our nanny state, think of all the money Coke and Pepsi will save on advertising. Cancel all new car ads and we can watch TV commercial-free. No doubt some businessmen will be annoyed and embarrassed, but after all they're the silly people who thought advertising was helpful to begin with.

We have to keep an eye on company profits to make sure they aren't too high or too low. Corporate advertising has to be kept in check so we can be sure revenues aren't wasted. The problem is that keeping an eye on business practices from the outside is so difficult and time consuming. This inefficient oversight would be vastly improved if we moved from the outside to the inside. Let's just take over the company.

And when the revolution comes, it will begin in Nashua. For years, Pennichuck Water Works has been a good company providing water to the citizens of Nashua and other southern New Hampshire communities. One day the company's shareholders decided to accept an offer for purchase by another water company, this one based in Philadelphia.

The city government was nervous at the prospect of a bunch of Philadelphians legally purchasing a private company. Life would be easier if the city bought the company, but at a cheaper price. So the government talked about just taking the company as if it were condemned property. Naturally, this scared away the Philadelphians and depressed the value of the company. The city is now free to take over the company and at a much more economical price. A little rough on the shareholders, but they shouldn't have been talking to Philadelphians anyway, right?

Now there are no worries about a bunch of pesky water professionals coming in and running the place; the whole operation can be overseen by government administrators.

The rest of the world is turning away from centralized planning. Industries that were taken over by national governments are being returned to the private sector. Ownership interest and profit motives are seen as useful incentives. Tax codes are being simplified and flattened to get government and lobbyists out of the business of managing by tax break. Oddly, New Hampshire, once a bastion of entrepreneurial spirit and free market sensibilities, is flirting with greater central control.

Is it possible that government planners are more efficient than business managers and entrepreneurs? Should city and state governments take private businesses to run themselves? Have we reached the end of the free enterprise system? Of course not, which is why this nonsense should stop.

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Charles M. Arlinghaus is president of the Josiah Bartlett Center for Public Policy in Concord.

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