

Exhibit No.:

Issue:

Witness:

Type of Exhibit:

Sponsoring Party:

Case Nos.:

Rate Design

Dr. Janice A. Beecher

Direct Testimony and
Schedules

Public Water Supply Districts
& the City of St. Joseph, MO.

WR-2000-281, SR-2000-282

FILED²

APR 06 2000

Missouri Public
Service Commission

DIRECT TESTIMONY

of

JANICE A. BEECHER, Ph.D.

On Behalf of

**Public Water Supply Districts
&
The City of St. Joseph, Missouri**

Missouri-American Water Company

CASE NOS. WR-2000-281 and SR-2000-282

Jefferson City, Missouri
April 6, 2000

Concluding Issues

Q. What other policies might the state public utility commissions consider when implementing single-tariff pricing?

A. Commissions may want to consider implementing other regulatory approaches in conjunction with single-tariff pricing. First, regulators may want to use auditing or other evaluation techniques to establish that the utility as a whole is operating efficiently and effectively. Second, the commission may need to coordinate with other regulatory agencies to establish the utility's progress in regulatory compliance. Third, regulators may want to review utility planning documents to evaluate the utility's long-term strategic plans for serving customers throughout their service territories. Fourth, the commissions may want to implement a monitoring and evaluation system to assess the effects and effectiveness of single-tariff pricing. Fifth, commissions should consider rate design comprehensively, including the joint effects of single-tariff pricing with other tariff features (such as conservation-oriented pricing techniques), in order to send appropriate price signals. Finally, regulators may want to assess the utility's efforts in educating customers about the nature and purpose of water rates and involving them in the ratemaking process. These efforts could include the utility's specific efforts in building understanding and support for the rate structure, as well as other considerations (such as conservation).

Q. What are your basic conclusions about single-tariff pricing?

Single-tariff pricing is a legitimate policy tool used by a clear majority of the states that regulate multi-system water utilities. Single-tariff pricing is a tool that can be

1 used on a case-by-case basis to achieve what the commissions believe to be in the
2 public interest given the evidence before them. The precarious condition of very
3 small water systems merits the consideration of a variety of regulatory approaches,
4 including single-tariff pricing. Because of the numerous policy tradeoffs involved,
5 only the commissions themselves can specify the circumstances appropriate for
6 implementing single-tariff pricing. The commissions should continue to exercise due
7 diligence in assessing these circumstances. Prohibiting the use of single-tariff pricing
8 by regulatory, legislative, judicial, or other means would not be desirable from a
9 public policy standpoint because it would undermine the ability of the regulatory
10 commissions to craft effective policies for the utility industries.

11

12 **Q. Does that conclude your prepared testimony?**

13 **A. Yes.**

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

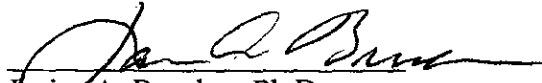
In the Matter of Missouri-American Water)
Company's Tariff Sheets Designed to)
Implement General Rate Increases for) Case Nos. WR-2000-281 and
Water and Sewer Service Provided to) SR-2000-282
Customers in the Missouri Service Area of)
the Company.)

AFFIDAVIT OF JANICE A. BEECHER, Ph.D.

STATE OF INDIANA)
) ss.
COUNTY OF MARION)

Janice A. Beecher, of lawful age and being first duly sworn, deposes and states:

1. My name is Janice A. Beecher. I am the President of Beecher Policy Research, Inc.
2. Attached hereto and made a part hereof for all purposes is my direct testimony consisting of pages 1 through 24 and Schedules JB-1 and JB-2.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.


Janice A. Beecher, Ph.D.

Subscribed and sworn to before me this 4th day of April, 2000.


Notary Public

PEGGY SMITH-BEA, Notary Public
My commission expires 7/16/2000
State of Indiana

1 **DIRECT TESTIMONY OF JANICE A. BEECHER**
2
3

4 **Background and Qualifications**

5 **Q. Would you please state your name and business address?**

6 A. Janice A. Beecher, Ph.D., Beecher Policy Research, Inc., 6225 Vancouver Court,
7 Indianapolis, Indiana.
8

9 **Q. What is your occupation?**

10 A. I am President of Beecher Policy Research, Inc., an independent research consulting
11 firm. I have a background in economic regulatory policy and decision-making and I
12 specialize in the structure and regulation of the water utility industry and related
13 policies, including pricing, planning, and affordability.
14

15 **Q. On whose behalf are you appearing in this proceeding?**

16 A. I am appearing on behalf of the following intervenors: Public Water Supply District
17 No. 1 of Andrew County; Public Water Supply District No. 2 of Andrew County;
18 Public Water Supply District No. 1 of DeKalb County; Public Water Supply District
19 No. 1 of Buchanan County; and the City of St. Joseph, Missouri.
20

21 **Q. Please state your educational background and provide a summary of your**
22 **professional experience.**

23 A. I received my B.A. in political science, economics, and history from Elmhurst
24 College, Illinois, in 1979. I received my M.A. in Political Science from

1 Northwestern University in 1980. I received my Ph.D. in Political Science from
2 Northwestern University in 1986. In my graduate work, I majored in Public Policy
3 with minors in Political Behavior & Institutions, Law & Politics, and Urban Politics.
4 My doctoral thesis was entitled *Uncertain by Design: A Structural Theory of*
5 *Regulation by the State Public Utility Commissions.*

6
7 I began my consulting practice in May 1998, following fifteen years of work
8 experience in the field of utility regulation. I was employed between April 1, 1995
9 and May 31, 1998 as a Senior Research Scientist and Director of Regulatory Studies
10 at the Center for Urban Policy and the Environment, School of Public and
11 Environmental Affairs, Indiana University-Purdue University Indianapolis. The
12 Center is a nonprofit research and assistance organization. I was appointed as an
13 Adjunct Professor in the School of Public and Environmental Affairs, Indiana
14 University Purdue University Indianapolis, where I have taught on a part-time basis.

15
16 From November 1, 1988 to March 31, 1995, I managed the water research program
17 of the National Regulatory Research Institute (NRRI) at The Ohio State University.
18 NRRI is the research arm of the National Association of Regulatory Utility
19 Commissioners (NARUC). While at NRRI, I was the project manager and senior
20 author for several research projects on water utility regulation and related issues.
21 These projects resulted in numerous monographs, articles, papers, and presentations.
22 Prior to joining NRRI, from November 1, 1983 to October 31, 1988, I worked for
23 the Chairman of the Illinois Commerce Commission as a policy analyst and advisor.

1 The Illinois Commerce Commission regulates investor-owned public utilities in
2 Illinois.

3
4 **Q. In what professional activities are you engaged?**

5 A. I participate as an observer on the NARUC Water Staff Subcommittee. I am actively
6 involved as a member of the American Water Works Association (AWWA). I serve
7 on the Rates and Charges Subcommittee of the AWWA Financial Management
8 Committee, which prepares AWWA's rates manuals. I also participate in
9 subcommittees of the Conservation Committee and served for one year as a liaison to
10 the AWWA Management Division. I have served on a project advisory committee
11 for the American Water Works Association Research Foundation and as a technical
12 reviewer for the *Journal of the American Water Works Association*. I was recently
13 appointed to a National Academy of Sciences Committee on Privatization of Water
14 Services in the United States.

15
16 I have been the lead Instructor for the introductory and advanced water utility
17 seminars included in the regulatory training programs organized on behalf of the
18 National Association of Regulatory Utility Commissioners by the Institute of Public
19 Utilities, Michigan State University.

20
21 I continue to work in a research and advisory capacity with staff members involved
22 in water utility regulation at the various state public utility commissions, with
23 professional colleagues in the public and private sectors, and with faculty colleagues.

1

2 My current research focuses on the structure and regulation of the water industry, as
3 well as comparative trends in the major public-utility industries. I also consult with
4 the U.S. Environmental Protection Agency (EPA) with regard to implementation of
5 the 1996 Safe Drinking Water Act, including provisions related to affordability,
6 capacity development, restructuring, and water conservation.

7

8 **Q. What are some of your publications?**

9 A. I have authored or coauthored numerous research reports and other publications,
10 including articles appearing in the *Journal of the American Water Works Association*
11 and other journals.

12

13 I authored several NRRI publications, including *The Regionalization of Water*
14 *Utilities: Perspectives, Literature Review, and Annotated Bibliography* (1996),
15 *Regulatory Implications of Water and Wastewater Utility Privatization* (1995),
16 *Revenue Effects of Water Conservation and Conservation Pricing* (1994), *Meeting*
17 *Water Utility Revenue Requirements* (1993), *Viability Policies and Assessment*
18 *Methods for Small Water Utilities* (1991), *Integrated Resource Planning for Water*
19 *Utilities* (1991), *Compendium on Water Supply, Drought, and Conservation* (1990),
20 and *Cost Allocation and Rate Design for Water Utilities* (1990, also published by the
21 American Water Works Association Research Foundation).

22

1 I recently submitted two coauthored draft reports to the American Water Works
2 Research Foundation, which sponsored the studies: *Socioeconomic Impacts of*
3 *Water Conservation and Deregulation! Impacts on the Water Industry*. Both will
4 be published this year.

5
6 I have prepared research reports for the NAWC, including a 1998 study entitled
7 *The Water Industry Compared: Structural, Regulatory, and Strategic Issues for*
8 *Utilities in a Changing Context*. It includes a detailed, empirical comparison of
9 the water industry to the electricity, natural gas, and telecommunications
10 industries, as well as an analysis of regulatory options and their relevance for the
11 water industry.

12
13 I prepared discussion papers in conjunction with the 1995, 1996, and 1997 Water
14 Policy Forums sponsored by the National Association of Water Companies
15 (NAWC). I also prepared the NAWC *Sourcebook of Regulatory Techniques for*
16 *Water Utilities* and a report entitled *1995 Inventory of Commission-Regulated*
17 *Water and Wastewater Utilities*.

18
19 I coauthored a book entitled *Forecasts and Environmental Decisionmaking* and
20 prepared several ancillary publications for college level American Government
21 textbooks.

1 **Q. Have you testified about the issue of single-tariff pricing prior to the**
2 **preparation of this testimony?**

3 A. Yes. I testified on the issue of single-tariff pricing on behalf of the staff of the
4 Florida Public Service Commission in Docket No. 950495-WS. I was asked by
5 the Florida staff to prepare an objective analysis of single-tariff pricing, which
6 included a survey of the state commissions about policies and practices.

7
8 Subsequently, I testified about this issue in 1997 on behalf of Indiana-American
9 Water Company in Cause No. 40703 before the Indiana Utility Regulatory
10 Commission and on behalf of Missouri-American Water Company in Case
11 Number WR-97-237/SR-97-238 before the Missouri Public Service Commission.
12 I testified on behalf of Pennichuck Water Works, Inc. in Case DR 97-058 before
13 the New Hampshire Public Utilities Commission. I testified on behalf of the
14 Southern California Water Company (now American States Water Company) on
15 this issue before the California Public Utilities Commission in Application No.
16 98-09-040.

17
18 **Q. Are you providing attachments to your testimony?**

19 A. Yes. Schedule JB-1 is my professional resume. Schedule JB-2 is a report I
20 completed recently for the United States Environmental Protection Agency
21 entitled *Consolidated Water Rates: Issues and Practices in Single-Tariff Pricing*.

22

23

1 **Purpose of Testimony**

2 **Q. What is the purpose of your testimony in this proceeding?**

3 A. The purpose of my testimony is to introduce to this record the research study entitled
4 *Consolidated Water Rates: Issues and Practices in Single-Tariff Pricing* (attached as
5 Schedule JB-2). I will briefly highlight some of the issues raised in the report and
6 expand on a few points. The basis of my testimony is a general policy analysis and I
7 will not provide an additional economic, financial, or cost-of-service analysis of the
8 facts involved in this particular case.

9
10 **Q. Does the report on *Consolidated Water Rates* reflect your professional analysis of**
11 **single-tariff pricing?**

12 A. Yes.

13
14 **Q. Would you modify any of the findings in *Consolidated Water Rates* based on**
15 **developments since the preparation and publication of the report?**

16 A. No.

17
18 **Issues**

19 **Q. How do you define single-tariff pricing?**

20 A. Single-tariff pricing is the use of a unified rate structure for multiple water (or other)
21 utility systems that are owned and operated by a single utility, but that may or may
22 not be contiguous systems or physically interconnected. Under single-tariff pricing,
23 all customers of the utility pay the same rate for the same service, even though the

1 individual systems providing service may vary in terms of the number of customers
2 served, operating characteristics, and stand-alone costs. Single-tariff pricing
3 essentially allows for allocating the average costs of combined systems in the course
4 of ratemaking. The terms "single-rate structure," "consolidated rates," "uniform
5 rates," "unified rates," and "rate equalization" sometimes are used in connection with
6 the concept of single-tariff pricing. I also consider single-tariff pricing to be an
7 example of "flexible" pricing when flexible pricing provides utilities with discretion
8 in rate-design decisions.

9
10 Single-tariff pricing can be applied across all of the systems comprising the water
11 utility. However, utilities also sometimes establish rates for regional zones
12 consisting of subsets of water systems within the larger service territory. Rate
13 consolidation sometimes is used for contiguous water systems that are not
14 interconnected, as well as for noncontiguous water systems that are not
15 interconnected. These instances of partial rate consolidation can be a compromise
16 between individualized tariffs and complete single-tariff pricing, or part of a phase-in
17 plan leading ultimately to a single tariff.

18
19 Single-tariff pricing basically is the conceptual "opposite" of zonal or spatially
20 differentiated pricing. Single-tariff pricing suggests that ratemakers should *de-*
21 *emphasize* spatial differences in costs; costs are aggregated rather than disaggregated.
22 One of the chief advantages of single-tariff pricing, from the utility's standpoint, is
23 simplification. Single-tariff pricing does not negate the need to determine the

1 revenue requirement and to allocate the revenue requirement among customer
2 classes. It may still be necessary for the utility to maintain cost data for separate
3 facilities and services in accordance with accepted accounting practices and
4 regulatory reporting standards. Once revenue requirements are established, however,
5 the *allocation* process is greatly simplified because it is unnecessary to spatially
6 allocate common costs (that is, costs that are not site-specific). Total costs simply are
7 spread over the consolidated customer base and only one rate structure is designed
8 for each class of service or customers.

9
10 **Q. Why can single-tariff pricing be characterized as a policy issue?**

11 A. Single-tariff pricing is a public policy issue because it involves tradeoffs among
12 competing policy objectives. Traditional cost-of-service principles and economic
13 efficiency arguments, adhered to in the U.S. model of water utility regulation, can
14 lead to the conclusion that stand-alone (or system-allocated) costs should be used as
15 the basis for pricing utility services. Single-tariff pricing as a matter of public policy
16 in this context requires an explicit recognition of the tradeoffs involved.

17
18 Specifically, single-tariff pricing involves a tradeoff between conventional ideas
19 about cost-based rates and economic efficiency, and other legitimate ratemaking
20 goals. These other goals include, for example, small-system viability, rate and
21 revenue stability, affordability, universal service, and compliance with environmental
22 standards. A fine-tuned price signal that appears to be economically efficient, for
23 example, can result in considerably less rate and revenue stability. Fine-tuned prices

1 also may be unaffordable to some customers. Evaluating ratemaking trade-offs can
2 be complex. The decisionmaking process can be greatly enhanced by information
3 and analysis, and decisions can be made more rational, but a certain degree of
4 judgment ultimately is required in determining whether a particular option is in the
5 public interest.

6
7 The short-term goals of single-tariff pricing tend to focus on enhancing the financial
8 viability of water systems and making rates more affordable for water customers.

9 The long-term goals, however, are related to structural change in the water industry.
10 Specifically, single-tariff pricing is regarded as a means to consolidating the
11 management and operation of water systems (or regionalization) to achieve multiple
12 policy goals.

13
14 **Q. How has the issue of single-tariff pricing emerged in the regulatory context?**

15 **A.** Single-tariff pricing has received more attention in the context of economic
16 regulation by the state public utility commissions than in context of public ownership
17 (where regulation is limited or nonexistent). Single-tariff pricing appears to be
18 common practice within publicly owned water systems, even when separate facilities
19 operate within the jurisdiction.

20
21 The issue of single-tariff pricing is not equally relevant in every regulatory
22 jurisdiction. Not all states regulate water utilities, and for those that have
23 jurisdiction, multi-system water utilities may not be present. Single-tariff pricing

1 also has not been raised as an issue for every multi-system water utility.

2
3 Single-tariff pricing has been placed on the regulatory policy agenda by the investor-
4 owned water industry. Some water industry officials have made a strong case for
5 single-tariff pricing before regulators. Several of the regional affiliates of the
6 American Water Works Company have taken the lead in advocating this method of
7 pricing before the state public utility commissions, including the commissions in
8 Illinois, Indiana, New Jersey, and Pennsylvania. However, the potential use of
9 single-tariff pricing also has been raised by other multi-system utilities, commission
10 staff members, and other stakeholders.

11
12 The many proceedings (and sequences of proceedings within certain jurisdictions) in
13 which the issue of single-tariff pricing has been raised is suggestive of the *case-by-*
14 *case* manner by which single-tariff pricing policy has largely developed. This is due
15 in part to the nature of commission decisionmaking: regulators must rule on the
16 record of evidence put before them in a given proceeding and each individual utility
17 generally must make its own case for implementation. However, some commissions
18 have explicitly encouraged the movement toward single-tariff pricing and a few have
19 incorporated this approach into general policies and specific policies concerning
20 acquisitions of smaller water systems.

21
22 In numerous decisions involving a variety of utilities and issues, many of the state
23 public utility commissions have found that single-tariff pricing is *in the public*

1 *interest* and that it comports with prevailing views about just, reasonable, and
2 nondiscriminatory rates. Some commissions have found that single-tariff pricing is
3 not inconsistent with cost-of-service principles or with commission ratemaking
4 authority. A variety of specific rationales (or combinations thereof) have been put
5 forth by some of the commissions to justify approval of single-tariff pricing: it
6 addresses pragmatic concerns affecting utilities and customers (namely, revenue
7 stability and mitigation of rate shock); it is consistent with consolidated management,
8 operations, financing, and corporate structures; it reduces regulatory caseload and
9 costs; and it results in comparable prices for comparable services produced from
10 comparable facilities.

11
12 **Commission Survey**

13 **Q. Did you survey the state public utility commissions about issues and practices**
14 **related to single-tariff pricing?**

15 A. Yes. The results of the survey appear in the report *Consolidated Water Rates*. The
16 survey was conducted in early 1996 and updated with emerging information in 1997,
17 1998, and 1999.

18
19 **Q. Is single-tariff pricing an issue in every state?**

20 A. No. Of the fifty (50) states, only forty-five (45) regulate water utilities. Only thirty
21 (30) commissions regulate "multi-system" utilities, for which consolidated rates
22 might be used. In five (5) of these jurisdictions, to my knowledge and based on my
23 survey of the commissions, the issue has never been raised. This leaves twenty-five

1 (25) states in which single-tariff pricing has been actively considered.

2

3 **Q. How would you summarize state commission policy on the use of rate**
4 **consolidation for multi-system utilities?**

5 A. For the twenty-five relevant states, single-tariff pricing is generally accepted in eight
6 (8) states and accepted on a case-by-case basis in seventeen (17) states. Three (3) of
7 the seventeen (17) states had not approved single-tariff pricing at the time of the
8 surveys (including California, which subsequently approved single-tariff pricing, and
9 Maryland and Mississippi, which had not considered the issue).

10

11 **Q. Are you aware of any state that has expressly prohibited the use of single-tariff**
12 **pricing by law?**

13 A. No.

14

15 **Structural Change In The Water Industry**

16 **Q. What factors are driving structural change in the U.S. water industry?**

17 A. Water supply clearly is a *rising-cost* industry. Water supply utilities, and their
18 regulators at the federal, state, and local levels, are increasingly aware of the water
19 supply industry's changing revenue requirements. Three key forces affecting the
20 industry's costs are (1) the need to comply with regulatory provisions of the Safe
21 Drinking Water Act (SDWA), (2) the need to replace and upgrade an aging water
22 delivery infrastructure, and (3) the need to meet water needs associated with
23 population growth and economic development. In addition, water utilities face a

1 variety of secondary cost forces. These include the cost of borrowing to finance
2 capital projects (which can be much higher for small systems) and the shift to
3 nonsubsidized, self-sustaining operations (especially for publicly owned systems).
4 Historic underpricing and the concurrent and mutually reinforcing impact of these
5 forces on many utilities presents a substantial pressure on both capital and operating
6 costs, a pressure not previously experienced by the water supply industry. In
7 response, water utilities are reexamining their cost allocation and rate design
8 practices.

9
10 Economies of scale in water supply, particularly in the areas of source development
11 and treatment, make it difficult for smaller water utilities to perform as well as larger
12 water utilities. Scale economies are indicated by declining unit costs of production;
13 as the volume of water “produced” (that is, withdrawn and treated) increases, the cost
14 per gallon or cubic foot decreases. At lower unit costs, production is less costly in
15 the aggregate and more efficient at the margin. Economies of scale can be achieved
16 in management, as well as physical operations.

17
18 Scale economies (or lack thereof), thus become an important determinant of how
19 much people pay for water service. As a generalization, assuming comparable
20 system characteristics and cost-based pricing, larger systems should be able to
21 provide service at a lower price than smaller systems. In reality, of course, many
22 factors other than system size (such as the quality of source water and treatment
23 methods required) influence ultimate water prices. But as a generalization, it is

1 widely held that smaller water systems must charge customers much higher rates for
2 water service comparable to service provided by larger water systems.

3
4 Economic theory argues strongly for cost-based utility rates, that is, rates based on
5 the true cost of providing a service. An efficient (cost-based) rate should sustain the
6 water utility system; however, if the rate is unaffordable to the service population and
7 customers cease to pay for and/or receive the service, the water system itself may
8 cease to exist. This solution may achieve a degree of economic efficiency, while
9 sacrificing other fundamental public health, safety, and quality-of-life purposes.

10

11 **Q. Are the challenges faced by the water utility industry and its regulators unique?**

12 A. In many respects, the challenges facing the water utility industry are unique. Water
13 is a particularly essential public utility commodity and the only one that consumers
14 actually ingest. Safe water for drinking is essential to maintaining life and while
15 bottled water may fulfill this purpose, it is not a reasonable or affordable substitute
16 for community drinking water systems that also provide water for public safety
17 (through fire protection) and facilitate sanitation (through wastewater management).
18 Water supply and wastewater services are especially capital-intensive, requiring a far
19 higher investment-to-revenue ratio than other public utilities. Maintaining and
20 upgrading the water supply infrastructure will require substantial investments. Water
21 transmission (or water “wheeling”) is far more costly from both a capital and
22 operational perspective than transporting natural gas or electricity. Physical
23 interconnection of systems is not always feasible. In addition to technological and

1 economic barriers to long-distance water transfers, watersheds and concerns about
2 preserving ecological integrity of areas place natural limits on water transfers.

3
4 Water's availability is affected both by supply and demand; in drought periods,
5 people want to consume more water at the same time water resources are depleted by
6 drought conditions. Despite its general abundance, water is a finite resource that is
7 not always abundantly available. Water has aesthetic, ecological, recreational,
8 agricultural, and industrial purposes beyond public supply. All of these traits
9 combine to make water management issues especially challenging for utilities and
10 public policymakers.

11
12 **Q. Is affordability of water service a growing concern?**

13 A. Yes. For many water customers, the affordability of water service is a growing
14 problem. The problem of affordability affects customers in terms of increased
15 arrearages, late payments, disconnection notices, and actual service terminations.
16 Affordability affects utilities in terms of expenses associated with credit, collection,
17 and disconnection activities; revenue stability and working capital needs, and bad
18 debt or uncollectible accounts the other customers must cover.

19
20 Other ramifications of the affordability issue also are becoming apparent.
21 Affordability can lead to variances or exemptions from drinking water regulations (if
22 no immediate public health threat is posed). Differentiations in quality among
23 systems with regard to water quality raises serious equity concerns. Rate design can

1 play a role in determining whether and which systems comply with standards.

2
3 If a customer base cannot support the cost of water service, potential lenders may be
4 concerned about the utility's financial viability and ability to meet debt obligations.
5 Moreover, disconnecting residential water customers can strain public relations and
6 create other difficulties for utilities, particularly because essential services are
7 involved. Increasingly, problems of bad debt also extend to nonresidential utility
8 customers. Financial distress and bankruptcies in the commercial and industrial
9 sectors can leave utilities holding the bag. However, the larger issue of affordability
10 is primarily a concern with respect to low-income residential consumers.

11
12 For low-income customers, who have little choice but to buy service from the local
13 utility, paying more for basic water service means going without less essential and
14 more discretionary products and services. Thus, rising water prices can contribute to
15 a deterioration in the quality of life for low-income utility customers.

16
17 **Q. What is the role of multi-system utilities in the evolving U.S. water industry?**

18 **A.** A multi-system water utility is a utility comprised of several distinct water systems.
19 Physical interconnection among systems can help utilities achieve economies of scale
20 in production and enhance service reliability. Without physical interconnection, the
21 utility still can achieve some economies of scale and scope through certain
22 operational and administrative functions. Managing multiple noninterconnected
23 systems within close physical proximity, for example, might allow the utility to save

1 labor costs by using a circuit rider approach to system operations. A specialized
2 maintenance team might also be used to address ongoing programs for maintenance,
3 replacements, and improvements. Consolidated meter reading, billing, and customer
4 relations functions also can produce savings.

5
6 At the management level, planning, financing, regulatory relations, and other areas of
7 decisionmaking also can be consolidated on a utility-wide basis. Managers with
8 greater expertise can be retained at the utility level rather than at the smaller system
9 level. While managers with greater expertise will command higher salary and benefit
10 packages, the investment in their expertise should yield benefits that individual
11 systems could not otherwise achieve. Managers benefit from a "learning curve" and
12 can replicate successful managerial and operational techniques across systems. In
13 sum, multi-system utilities probably can exploit efficiencies and improve
14 effectiveness by deploying a unified workforce, rather than having each individual
15 utility system maintain separate capability for various utility activities.

16
17 The potential advantages of utility-wide management may extend beyond the
18 immediate efficiency payoffs. Planning for multiple systems, as compared to
19 individual systems, allows for a more comprehensive and consolidated approach.
20 Better planning, in turn, should enhance the utility's capacity to comply with
21 regulations and respond effectively to regional economic and environmental issues.
22 Effective watershed management and source-water protection programs, for example,
23 require a regional perspective that is not easily achieved by isolated systems.

1
2 Finally, multi-system utility operations can be linked to the broader and more long-
3 term policy concerns related to structural change in the water industry through
4 regionalization. Multi-system utilities generally serve regional areas. Many have the
5 potential to combine operations, with or without physical interconnection, with other
6 nearby water systems (many of which are small in size). Water utility mergers and
7 acquisitions reflect a very gradual trend toward regionalization and, in some cases,
8 privatization of water services. Existing utilities also can be used to provide service
9 as an alternative to the creation of a new utility. Indeed, many states will not certify
10 a new water system if service from an existing provider is feasible. In addition to
11 expanding regional water operations, some water utilities have diversified by
12 entering the wastewater industry. Likewise, some private energy utilities providing
13 electricity and natural gas have ventured into the water business. The formation and
14 expansion of multi-system utilities and multi-sector utilities are part of potentially
15 fundamental structural changes occurring in the water industry.
16

17 **Q. What is the role of pricing in structural change?**

18 A. Pricing is intrinsically related to structural change in the water industry. For
19 example, a utility may be more or less interested in a merger or acquisition because
20 of the potential to impose changes in prices. A negotiated sale of a utility may
21 include limitations on near-term pricing practices or even price caps or freezes for a
22 fixed period of time. Larger utilities often are reluctant to consider acquiring smaller,
23 nonviable systems unless reliable means of cost recovery can be identified. A

1 disincentive for some acquisitions is the need for substantial investment in the
2 acquired system's infrastructure that is not necessarily accompanied by the service
3 community's ability to pay through higher rates. As mentioned already, the
4 acquisition may yield some economies but not usually economies of a magnitude
5 great enough to offset a very small system's diseconomies. It can be speculated that
6 more acquisitions would occur if acquiring utilities were allowed to spread costs
7 throughout the utility's multiple service territories.

8
9 Although the dilemmas of small water systems have been extensively studied, the
10 issue of pricing probably has received considerably less attention than viability
11 assessment, capacity building, and related approaches. Pricing policies ultimately
12 will play a role in shaping the future structure of the water industry, including but not
13 limited to the future of small water systems.

14
15 Single-tariff pricing has the potential to encourage economic industry consolidation
16 and regionalization, as well as privatization (Janice A. Beecher, G. Richard Dreese
17 and John D. Stanford, *Regulatory Implications of Water and Wastewater Utility*
18 *Privatization*, Columbus, OH: The National Regulatory Research Institute, 1995).

19 Averaging costs can help mitigate against rate shock for customers and enhance
20 revenue stability for utilities, and it is relatively simple to administer. Some investor-
21 owned utilities have sought single-tariff pricing in direct connection with small
22 system acquisitions (Raymond W. Lawton, and Vivian Witkind Davis, *Commission*
23 *Regulation of Small Water Utilities: Some Issues and Solutions*, Columbus, OH: The

1 National Regulatory Research Institute, 1983). According to one industry
2 representative, single-tariff pricing "could help solve the dilemma of other
3 nonintegrated small water systems" (Edward M. Limbach, "Single-tariff pricing,"
4 *Journal of the American Water Works Association* 75 no. 9, September 1984).

5
6 **Q. How is consolidated pricing like aggregation?**

7 In some respects, rate consolidation is similar to "aggregation," a tool emerging in
8 the context of electric industry restructuring. Aggregation is used to group customers
9 according to similar characteristics, usage patterns, or service requirements.
10 Aggregation can provide access to services and a degree of purchasing power to
11 disadvantaged customers. In effect, multi-system utilities are aggregators for the
12 customers in the various systems they manage. Both aggregation and rate
13 consolidation can promote the broader goal of universal service.

14
15 **Q. Do the state public utility commissions appear to support the idea of**
16 **restructuring?**

17 **A.** In general, modern public policies, including regulatory policies, appear to support
18 consolidation of the water-supply industry to achieve economies of scale. The
19 emphasis on water system capacity at the federal, state and local levels will make it
20 harder for providers to get operating certificates, water-supply permits, and special
21 financing. Explicitly or implicitly, growth management policies in some states are
22 calling for consolidation of water supply through interconnection with existing
23 systems. Public policy also appears to emphasize the importance of establishing and

1 maintaining water systems for which the population served can support the cost of
2 water service. Thus, institutional factors also are playing a role in reducing the
3 number of water systems.

4
5 Many of the state commissions have broadly supported the idea of consolidating
6 water utilities and specifically approved valuation, costing, and pricing practices that
7 encourage larger and healthier utilities to acquire smaller and less healthy utilities.
8 Some of the commissions provide specific incentives for mergers and acquisitions.
9 Certain ratemaking practices, including single-tariff pricing, also can provide
10 incentives for acquisitions and, perhaps, the formation of regional water systems.
11 Larger systems interested in acquiring smaller systems tend to favor single-tariff
12 pricing. As reported in Schedule JB-2, single-tariff pricing is explicitly mentioned
13 by the Pennsylvania Public Utility Commission in its policy statement regarding
14 acquisitions (PA PUC, 1996, Incentives for Acquisition and Merger of Small
15 Nonviable Water Utilities--Statement of Policy. Title 52, Part I, § 69.711).

16
17 The commission role in restructuring is easily understated given the somewhat
18 limited jurisdiction of the commissions for the water industry as a whole. However,
19 commission policy decisions in pricing and other areas have the potential to affect
20 the structure of the industry in important ways.

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PROFESSIONAL EXPERIENCE

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ADJUNCT PROFESSOR. School of Public and Environmental Affairs, Indiana University, Indianapolis. August 1995 to June 1998. Taught graduate and undergraduate courses in public policy, including a course on privatization. Special adjunct faculty appointment at Southern Illinois University for graduate student committee. Faculty of the Institute for Public Utilities, Michigan State for water programs.

SENIOR RESEARCH SCIENTIST AND DIRECTOR OF REGULATORY STUDIES. Center for Urban Policy and the Environment, School of Public and Environmental Affairs, Indiana University. Indianapolis, Indiana. April 1995 to June 1998. Principal investigator and analyst for research related to the structure and regulation of the water utility industry. Responsible for the program's research agenda, funding and development, and clearinghouse functions.

SENIOR INSTITUTE RESEARCH SPECIALIST. The National Regulatory Research Institute, The Ohio State University. Columbus, Ohio. November 1988 to March 1995. Principal project manager and regulatory analyst for water utility research; assisted in setting the research agenda, funding and grant development, and external relations; member of the staff subcommittee of the National Association of Regulatory Utility Commissioners (NARUC) Water Committee; liaison to state commissioners and staff, federal agencies, university faculty, professional associations, and others interested in water utility and regulatory issues; organizer and moderator for the Water Policy Forum at the Biennial Regulatory Information Conference; and instructor for new commissioner tutorial and other educational programs. Recipient of the 1991 Board of Directors award for excellence; honored by a NARUC resolution in 1995.

ADJUNCT ASSOCIATE PROFESSOR. School of Public Policy and Management, The Ohio State University. Columbus, Ohio. February 1994 to April 1995. Taught two graduate-level public policy courses, served as a faculty and research advisor to graduate students; sat on graduate student committees; and participated in faculty colloquia.

EXECUTIVE ASSISTANT TO THE CHAIRMAN. Illinois Commerce Commission. Chicago, Illinois. November 1983 to October 1988. Principal policy analyst, project coordinator, and advisor to the Chairman on matters of administration, legislation, and regulatory policy affecting the electricity, gas, telecommunications, transportation, and water industries; Chairman's liaison to other commissioners, the executive director and division managers, state and federal agencies, the National Association of Regulatory Utility Commissioners, the media, and the general public; author of numerous policy memoranda and speeches.

ASSOCIATE INVESTIGATOR. Study of the Precision of Environmental Impact Assessment, funded by the National Science Foundation. Center for Urban Affairs & Policy Research, Northwestern University, 1982 to 1983. Provided project management with primary responsibility for sample selection and coding, planned field research, interviewed knowledgeable informants and collected data, assisted in data management and statistical analysis, conducted investigation of policy implementation and nonimplementation, and coauthored book serving as final report.

RESEARCH ASSOCIATE. Governmental Responses to Crime Project, funded by the National Institute of Justice. Center for Urban Affairs & Policy Research, Northwestern University, 1980 to 1982. Completed a study of political responses to crime in American cities using interviews with knowledgeable informants and other sources, provided data management, and coauthored final report.

RESEARCH ASSOCIATE. Wind Energy Research Project, funded by the Solar Energy Research Institute. Center for Urban Affairs & Policy Research, Northwestern University, 1980. Designed and conducted field research and coauthored final research report.

RESEARCH ASSOCIATE. Illinois Sunset Review Project, funded by the Illinois General Assembly. Department of Political Science, University of Illinois at Chicago, 1980. Researched federal impacts on state licensure and coauthored final report to the Illinois legislature.

TEACHING ASSISTANT. Department of Political Science, Northwestern University, 1980. Aided instructors for American presidency and law and politics courses, assisted undergraduate students, and graded papers and examinations.

BANKING. Elmhurst Federal Savings and Loan and Elmhurst National Bank, Illinois. 1974 to 1979.

EDUCATION

PH.D. NORTHWESTERN UNIVERSITY. Political Science. August 1986.
Fields: Public Policy (major), Political Behavior & Institutions, Law & Politics, Urban Politics. Dissertation: Uncertain by Design: A Structural Theory of Regulation by the State Public Utility Commissions.

M.A. NORTHWESTERN UNIVERSITY. Political Science. August 1980..
M.A. Thesis: When Governments Intervene: The Adoption of Regulatory Policy in the American States.

B.A. ELMHURST COLLEGE. Economics, Political Science, and History. June 1979
Phi Kappa Phi (the college's ranking scholastic honors society). Graduated with highest honors.

SCHOLARSHIPS

Northwestern University Scholarship, 1982-1983.
Northwestern University, Center for Urban Affairs & Policy Research Fellowship, 1981-1982 and 1980-1981.
Northwestern University Fellowship, 1979-1980.
Elmhurst College Freshman Scholar, 1977-1978.

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Janice A. Beecher. "Privatization, Monopoly, and Structured Competition in The Water Industry: Is There A Role For Regulation? Presented at the Americana Environmental Conference in Montreal, March 1999; the Annual Conference of the American Water Works Association in Chicago, June 1999; and the Annual Conference of the University Council of Water Resources in Kona, Hawaii, June 1999.

Janice A. Beecher. "Water Accountability and The EPA Water Conservation Plan Guidelines." Presented at the Annual Conference of the American Water Works Association in Chicago, 1999.

Janice A. Beecher. "The Water Industry: Unique Characteristics and Innovative Regulatory Techniques." Presented at the Meeting of the NARUC Subcommittee on Accounts in New Orleans, March 1999.

Janice A. Beecher. "Integrating Conservation in Resources Planning." Moderator at Conserv99, Monterey, California, February 1999.

Janice A. Beecher. "Water Compared." Presented at the Annual Meeting of the National Association of Water Companies, Greenbrier, West Virginia, October 1998.

Janice A. Beecher. "Single-Tariff Pricing." Presented at the Annual Meeting of the National Association of Water Companies, Greenbrier, West Virginia, October 1998.

Janice A. Beecher. "Water Affordability." Presented at the Meeting of the NARUC Subcommittee on Accounts in Indianapolis, September 1998.

Janice A. Beecher. "The Water Industry Compared: Structural, Regulatory, and Strategic Issues for Utilities in a Changing Context." Presented at the five annual regional conferences of the National Association of Regulatory Utility Commissioners, Spring and Summer 1998.

Janice A. Beecher. "The 1996 SDWA and Structural Change in the Water Industry." Annual Convention of the American Water Works Association in Dallas, June 1998.

Janice A. Beecher. "Efficiency and Profitability: Conservation Incentives for Investor-Owned Water Utilities." Presented at the Annual Conference of the American Water Works Association in Dallas, June 1998.

Janice A. Beecher. "Source-Water Protection under the 1996 SDWA: A Paradigm Shift." A Presentation at the SPEA Statehouse Colloquium Series, February 1998.

Janice A. Beecher. "Efficiency and Structure: Structural Change Under the 1996 SDWA." A Presentation at the Annual Meeting of the Indiana Chapter of the American Water Works Association, February 1998.

Janice A. Beecher. "The Last Monopoly: Competition and Regulation in the Water Industry." A Presentation at the Annual Meeting of the National Association of Regulatory Utility Commissioners in Boston, November 1997.

Janice A. Beecher. "Capacity through Restructuring: Structural Change in the Water Industry under the 1996 Safe Drinking Water Act." A Presentation at the Annual Meeting of the National Association of Regulatory Utility Commissioners in Boston, November 1997.

Janice A. Beecher. "Sourcebook of Regulatory Techniques for Water Utilities." A General Session Presentation at the Annual Meeting of the National Association of Water Companies in San Diego, September 1997.

Janice A. Beecher. "Water Conservation Guidelines Provision in the 1996 Safe Drinking Water Act." A Presentation to the Illinois-Missouri Chapter at the Annual Meeting of the National Association of Water Companies, San Diego, 1997.

Janice A. Beecher. "Water Conservation Guidelines Provision in the 1996 Safe Drinking Water Act." A Presentation at the AWWA/EPA Water Conservation Workshop in Denver, September 1997.

Janice A. Beecher. Panel participant in the Water Policy Forum of the National Association of Water Companies in Naples, Florida (September 1997, 1996, and 1995).

Janice A. Beecher. "Affordability Provisions of the 1996 Safe Drinking Water Act." A Presentation at the Annual Meeting of the Southeastern Association of Regulatory Utility Commissioners in Lexington, Kentucky, May 1997.

Janice A. Beecher. "Alternative Rate-making Approaches for the Water Industry." A Presentation at the University of Missouri 1997 Rate Symposium, St. Louis, April 1997.

- Janice A. Beecher. "Current Research Findings in Water Utility Ratemaking." A Presentation at the Annual Meeting of the Indiana Section of the National Association of Water Companies, March 1997.
- Janice A. Beecher. "What are Fair Water Rates?" A Presentation at the Annual Meeting of the Indiana Chapter of the American Water Works Association, February 1997.
- Janice A. Beecher. "Current Research Findings in Water Utility Ratemaking." A General Session Presentation at the Annual Meeting of the National Association of Water Companies in Orlando, October 1996.
- Janice A. Beecher. "Regulators' Panel." Moderator for a panel at the National Association of Water Companies Annual Meeting (general session), October 1996.
- Janice A. Beecher. "The Water Industry: Trends and Issues." A Presentation to the Mid-America Regulatory Conference in Chicago (June 1996), and the Great Lakes Conference of Utility Commissioners in Cleveland (July 1996).
- Janice A. Beecher. "Public Involvement Workshop." Moderator at the Annual Meeting of the American Water Works Association Meeting in Toronto (June 1996).
- Janice A. Beecher. "Water Pricing and Community Development." A presentation at the Indiana Section meeting of the National Association of Water Companies, Indianapolis (March 1996).
- Janice A. Beecher. "Water and Wastewater Utility Privatization: A Global Perspective." A paper presented at a conference of the Institute for Global Climate Change, Indiana University, Bloomington (March 1996).
- Janice A. Beecher. Panel participant on "Impacts of Competition on the Water Industry." Water Committee Seminar of the Winter Meeting of the National Association of Regulatory Utility Commissioners in Washington, D.C. (February 1995).
- Janice A. Beecher. Panel participant on "Musings on the Post-ULV Era." Conserv96 conference in Orlando (January 1996).
- Janice A. Beecher. Panel participant on "Environmental Public-Private Partnerships--Setting the Tone for the Future," at the Annual Conference of the National Council for Public-Private Partnerships in Chicago, Illinois (October 1995).
- Janice A. Beecher. "Regulatory Implications of Water and Wastewater Utility Privatization." A presentation to the Illinois Commerce Commission in Springfield, Illinois (October 1995).
- Janice A. Beecher. "Structure and Regulation of the Water Utility Industry: Changes and Challenges." A presentation at the Utilities Conference of the Indiana CPA Society (October 1995).

- Janice A. Beecher. "Water Demand, Prices, and Revenues: The Effects of Conservation." Presentation at the Annual Conference of the American Water Works Association in Anaheim, California (June 1995).
- Janice A. Beecher. Moderator for "Reauthorization of the Safe Drinking Water Act" at the Annual Meeting of the Mid-America Regulatory Conference in Indianapolis, Indiana (June 1995).
- Janice A. Beecher. "Emerging Issues in Benchmarking and Performance-Based Water Utility Regulation." Presentation at the Annual Meeting of the New England Chapter of the National Association of Water Companies in Kennebunkport, Maine (May 1995).
- Janice A. Beecher. "Regulatory Implications of Water Utility Privatization: Research Findings." Presentation at the Water Committee Seminar of the Winter Meeting of the National Association of Regulatory Utility Commissioners in Washington, D.C. (February 1995).
- Janice A. Beecher. "The Water Industry: Coordinating Regulatory Functions and Resource Planning." Presentation to the Select Committee on Water Policy of the Florida House of Representatives in Tallahassee, Florida (February 1995).
- Janice A. Beecher. "Emerging Regulatory Requirements for Conservation and IRP." Presentation at the American Water Works Association Water Conservation Workshop in Santa Fe, New Mexico (January 1995).
- Janice A. Beecher. "Managing Watersheds for the Twenty-First Century: An Integrated Planning Perspective." Panelist at the Wayne Nichols Program, School of Natural Resources, The Ohio State University (November 1994).
- Janice A. Beecher. "Impacts of Legislative Regulations." Panelist at the Annual Conference of the Water Management Association of Ohio (November 1994).
- Janice A. Beecher. "Integrated Approaches to Resource Planning and Environmental Protection." Organizer and moderator at the Public Policy Roundtable on Business and the Environment, School of Public Policy, The Ohio State University (October 1994).
- Janice A. Beecher. "Regulatory Excellence for the 21st Century." Presentation at the Annual Meeting of the National Association of Water Companies in Scottsdale, Arizona (October 1994).
- Janice A. Beecher. "Financial Distress Assessment Models for Small Water Utilities." Presentation at the Annual Conference of the American Water Works Association in New York (June 1994).
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Janice A. Beecher. "General Summary of the NRRI State Commission Survey on Water Conservation Pricing and Revenue Recovery Issues." Presentation to the Committee on Rates and Charges at the Annual Conference of the American Water Works Association in New York (June 1994).

Janice A. Beecher. "Water Utilities and the Environment." Presentation at the Annual Technical Conference of the National Association of Regulatory Utility Commissioners in Washington, D.C. (February 1994).

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Janice A. Beecher. "Integrated Resource Planning for Water Utilities." Presentation at Conserv93 in Las Vegas, Nevada (December 1993).

Janice A. Beecher. "The Role of the State Public Utility Commissions in Water Conservation." Moderator for an affinity group at Conserv93 in Las Vegas, Nevada (December 1993).

Janice A. Beecher. "Institutional Roles and Responsibilities for Integrated Water Resource Planning: Discussion Paper." Paper prepared for the Water Industry Technical Action Fund (WITAF) and presented at the Annual Conference of the American Water Works Association in San Antonio, Texas (June 1993).

Janice A. Beecher. "Consensus Building for Integrated Water Resource Planning: Discussion Paper." Paper presented at the Annual Conference of the American Water Works Association in San Antonio, Texas (June 1993).

Janice A. Beecher. "Integrated Water Resource Planning: Discussion Paper." Paper prepared for the Water Industry Technical Action Fund (February 1993).

Janice A. Beecher. Panel presentation on Water Utility Regulatory Issues at the New England Chapter of the National Association of Water Companies in Plymouth, Massachusetts (June 1992).

Janice A. Beecher. "Economic and Regulatory Impacts of the Safe Drinking Water Act." Paper presented at the New England Conference of Public Utility Commissioners (May 1992).

Janice A. Beecher. "Contemporary Water Issues." Presentation to the Energy and Public Utilities Committee of the Connecticut General Assembly in Hartford, Connecticut (January 1992).

Janice A. Beecher. "Small Systems Solutions." Presentation at the Annual Meeting of the National Association of Water Companies in St. Louis, Missouri (October 1990).

Patrick C. Mann and Janice A. Beecher. "The Cost and Rate Impact of the Safe Drinking Water Act." Paper presented at the Iowa State Regulatory Conference in Ames, Iowa (May 1990).

- Janice A. Beecher. "Economics of Future Water Supplies." Presentation at the Conference on Water Sufficiency for the 21st Century Sponsored by the International Center for Water Resources Management, Central State University in Wilberforce, Ohio (May 1990).
- Janice A. Beecher. "State Regulatory Issues in the Age of Discovery." Presentation at the American Water System Annual Management Seminar. Columbus, Ohio (May 1989).
- Janice A. Beecher. "Value, Cost, and Price: Essay on Emerging Water Utility Issues." Paper presented at the Symposium on International and Transboundary Water Resources Issues in Toronto, Ontario (April 1990).
- Janice A. Beecher. "State Public Utility Commissions and State Drinking Water Administrators: A Case for Interagency Coordination." Presentation at the Environmental Protection Agency's Workshop on Financing Strong State Water Programs in Denver, Colorado (April 1989).
- Janice A. Beecher. "Applying Political Science." Panelist on the Applied Political Science Panel, Annual Meeting of the American Political Science Association, Chicago, Illinois (September 1987).
- H. Paul Friesema with Janice A. Beecher. "The Unclear Connection Between the Scientific Quality of Environmental Impact Statements and Public Policy: Experience in the USA." Paper delivered by H. Paul Friesema at the International Seminar on the Role of Environmental Assessment in the Decisionmaking Process in Heidelberg, Federal Republic of Germany (August 1987).
- Janice A. Beecher. "Agricultural Energy Consumption and Conservation in Illinois: An Overview." Research paper prepared for the Illinois Commerce Commission (October 1984).
- Janice A. Beecher. "Utility Taxation and Consumer Costs in Illinois: A Statistical Report." Research paper prepared for the Illinois Commerce Commission (May 1984).
- Janice A. Beecher, Robert L. Lineberry, and Michael J. Rich. "Crime in the Cities: Politics and Policy Over a Generation." Paper delivered at the Annual Meeting of the Midwest Political Science Association in Cincinnati, Ohio (April 1981).

INSTRUCTIONAL BOOKS

- Janice A. Beecher. Study Guide, Instructor's Manual, and Test Bank to accompany Karen O'Connor and Larry Sabato's American Government: Roots and Reform. New York: Macmillan, 1993 edition. Study Guide, 1995 and 1996 editions.
- Janice A. Beecher. Test Bank to accompany Empty Dreams, Empty Pockets. New York, Macmillan, 1993.
- Janice A. Beecher. Study Guide to accompany Robert L. Lineberry's Government in America. Boston: Scott, Foresman/Little, Brown, 1983, 1986 and 1989 editions.

Janice A. Beecher, et al. Instructor's Manual to accompany Robert L. Lineberry's Government in America. Boston: Little, Brown, 1986 edition.

EXPERT TESTIMONY

Janice A. Beecher. Testimony on single-tariff pricing for water utilities before the California Public Service Commission, June 1999.

Janice A. Beecher. Testimony on single-tariff pricing for water utilities before the New Hampshire Public Service Commission, February 1998.

Janice A. Beecher. Testimony on single-tariff pricing for water utilities before the Missouri Public Service Commission, July 1997.

Janice A. Beecher. Testimony on single-tariff pricing for water utilities before the Indiana Utility Regulatory Commission, February 1997.

Janice A. Beecher. Testimony on single-tariff pricing for water utilities before the Florida Public Service Commission, February 1996

INSTRUCTIONAL EXPERIENCE

UNIVERSITY COURSES

"Privatization" (Graduate/Undergraduate, V450/550). School of Public and Environmental Affairs, Indiana University (IUPUI). Spring 1998, Summer 1997. Previously, "Politics and Markets," (Undergraduate Y380). Political Science, Indiana University (IUPUI). Fall 1996.

Public Policy Process," (Graduate, V512). School of Public and Environmental Affairs, Indiana University (IUPUI). Fall 1995, Summer 1996 and Spring 1997.

"Introduction to Public Affairs," (Undergraduate, V170). School of Public and Environmental Affairs, Indiana University (IUPUI). Spring 1996.

"Public Policy and Program Implementation" (Graduate, PPM 803). School of Public Policy and Management, Ohio State University. Spring 1992 and Winter 1993.

"Public Policy Formulation and Administration" (Graduate, PPM 801). School of Public Policy and Management, Ohio State University. Fall 1991.

WORKSHOPS

Workshop on the Valuation of Water Utilities. Overview of Policy and Regulatory Issues. Sponsored by Public Utility Reports and the National Association of Water Companies. San Diego, January 2000.

Regulatory Studies Program, Institute of Public Utilities. Lead instructor for the water utility regulation seminars. Modules cover industry and regulatory structure, capacity development, water rates, privatization, and current issues. Michigan State University. East Lansing, Michigan. Annually since 1994.

NARUC Water Utility Rate School. Instructor on water industry characteristics and regulatory alternatives. Sponsored by the National Association of Regulatory Utility Commissioners. Semi-annually since Fall 1997.

Water Conservation Guidelines Workshop. Consultant to US EPA and panelist. Sponsored by the American Water Works Association and the U.S. Environmental Protection Agency. Denver, September 1997.

AWWA National Teleconference on Water Industry Privatization. American Water Works Association. Denver, Colorado. November 1996.

Workshop on Water Industry Structure, Regulation, and Ratemaking. Presentation to a delegation from Japan. American Water Works Association. Denver, Colorado. April 1996.

Regulatory Studies Program for the Louisiana Public Service Commission, Institute of Public Utilities, Michigan State University. Baton Rouge, Louisiana. February 1996. Lead instructor for water utility regulation seminars.

Workshop on the Structure and Regulation of the Water Industry for the Ohio Consumers' Counsel. Columbus, Ohio. January 1996.

Advanced Regulatory Studies Program, Institute of Public Utilities, Michigan State University. Lead instructor for the water utility regulation seminars. Annapolis, Maryland. January 1996.

National Regulatory Research Institute Tutorial for New Commissioners. Instructor on structure and regulation of the water industry for in-house seminars. Columbus, Ohio. 1990 to 1995.

Workshop on Economic Regulation of Water Utilities in the United States. Presentation to a delegation from Argentina (ETOSS). Washington, D.C. April 1994.

Workshop on Institutional Options for Price Regulation of Water Utilities. World Bank, Washington, D.C. April 1994.

Water Policy Forum, NRRI Biennial Regulatory Information Conference. Organized and moderated a series of panels.. Columbus, Ohio. September 1992 and September 1994.

RESEARCH SPONSORS AND CLIENTS

U.S. Environmental Protection Agency
American Water Works Association Research Foundation
American Water Works Association
National Association of Water Companies
National Regulatory Research Institute, The Ohio State University
Institute of Public Utilities, Michigan State University
The World Bank
California Urban Water Conservation Council
Connecticut Department of Public Utility Control
Florida Public Service Commission
Illinois Department of Transportation
Ohio Environmental Protection Agency
Washington Utilities and Transportation Commission
A&N Technical Services
Stratus Consulting
Hagler Bailly Consulting
Raftelis Environmental Consulting Group
American Water Works Company
American States Water Company
Indianapolis Water Company
Metropolitan Water District of Southern California

APPOINTMENTS AND PROFESSIONAL ACTIVITIES

National Academy of Sciences. Water Science and Technology Board's Committee on Privatization of Water Services in the United States. 1999 to present.

American Water Works Association. Member of the Rates and Charges Subcommittee of the Financial Management Committee, 1994 to present. Member of the Water Conservation Committee, 1993 to 1999. Liaison to the AWWA Management Division, 1995.

Editorial Committee. Water Resources Update. 1998 to present.

Peer Reviewer. American Water Works Association Journal, 1995, 1996, 1998. Water Resources Planning and Management, 1995.

Staff Subcommittee on Water of the National Association of Regulatory Utility Commissioners (Observer), 1996 to present.

Project Review Committee. National Research Council Report on Safe Water From Every Tap, 1996.

Project Advisory Committee. Small System Regionalization Study. American Water Works Association Research Foundation, 1994 to 1996.

Study Group on Identity. Indiana University Purdue University Indianapolis, 1995 to 1996.

Project Review Committee. Rocky Mountain Institute's Study on the Future of Municipal Water Services. Summer 1995.

Columbus Water Conservation Advisory Board. Mayoral appointment, 1994 to 1995.

Staff Subcommittee of the Water Committee. National Association of Regulatory Utility Commissioners, 1989-1995.

State of Ohio Pollution Prevention Development Workgroup. Governor's appointment, 1993 to 1994.

Executive Committee. Applied Section, American Political Science Association, 1987-1989.

Research Advisory Committee. The National Regulatory Research Institute, 1987-1988.

Alliance for Least-Cost Energy Planning. City of Chicago, 1987-1988.

EXPERTISE AND PROFESSIONAL SKILLS

- Economic regulation of public utilities.
- Structure and regulation of the water-supply industry.
- Cost allocation, pricing, and rate design for water utilities.
- Regulatory theory, processes, and decisionmaking.
- Institutional, comparative, and intergovernmental policy analysis.
- Research design, management, and methods.
- Interdisciplinary approaches and analytical frameworks.

REFERENCES PROVIDED ON REQUEST
