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Witness:	Karl A. McDermott
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Case No.:	WR-2015-0301
	SR-2015-0302
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2015-0301
CASE NO. SR-2015-0302

DIRECT TESTIMONY

OF

KARL A. MCDERMOTT

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

IN THE MATTER OF MISSOURI-AMERICAN WATER COMPANY FOR AUTHORITY TO FILE TARIFFS REFLECTING INCREASED RATES FOR WATER AND SEWER SERVICE	)))))	**CASE NO. WR-2015-0301** **CASE NO. SR-2015-0302**

AFFIDAVIT OF KARL A. MCDERMOTT

Karl A. McDermott, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Direct Testimony of Karl A. McDermott"; that said testimony and schedules were prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge.

Karl A McDermott

Karl A. McDermott

County of Champaign
State of Illinois
SUBSCRIBED and sworn to
Before me this 21 day of April 2015.

Notary Public

My commission expires:

"OFFICIAL SEAL"
JEANNE G. METZGER
Notary Public, State of Illinois
My commission expires 04/30/16

DIRECT TESTIMONY
KARL A. MCDERMOTT
MISSOURI-AMERICAN WATER COMPANY
CASE NO.WR-2015-0301
CASE NO.SR-2015-0302

TABLE OF CONTENTS

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-15-0301
CASE NO. WR-15-0302

DIRECT TESTIMONY

OF

KARL A. MCDERMOTT

I. INTRODUCTION

Q1. WOULD YOU PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION?

A. My name is Karl A. McDermott. My business address is 155 North Wacker Drive, Suite 1450, Chicago, Illinois, 60606. I am currently the Ameren Distinguished Professor of Business and Government at the University of Illinois, Springfield (UIS) and Director of the Center for Business and Regulation housed in the College of Business and Management at UIS. I am also a Special Consultant to National Economic Research Associates, Inc. ("NERA").

Q2. WHAT ARE YOUR QUALIFICATIONS TO PROVIDE TESTIMONY IN THESE DOCKETS?

A. While a more detailed description of my background can be found in my curriculum vita attached to this testimony as Schedule KAM-1, I will provide a brief biographical sketch here. I have been working in the field of public utility regulation for over thirty years with experience in nearly every facet of the regulation of public utilities. Prior to my current academic appointment, I was a

Vice-President at NERA where I directed projects in the electric, natural gas, and telecom industries. From April of 1992 until May of 1998, I served as a Commissioner on the Illinois Commerce Commission (ICC) where I voted on numerous water utility rate cases and other proceedings that came before the ICC. From 1986 to 1992, I co-founded and served as the President of the Center for Regulatory Studies (CRS), a not-for-profit regulatory policy institute located on the campus of Illinois State University. CRS was created to provide the Illinois regulatory environment with independent third-party research and education on issues affecting the regulation of public utilities.

Before co-founding the CRS, I worked in numerous capacities including positions on the staff of the ICC, the National Regulatory Research Institute (NRRI) at the Ohio State University and Argonne National Laboratory. I currently teach classes on the regulation of public utilities and I have also taught graduate and undergraduate level economics courses, including regulatory economics, at Illinois State University and undergraduate economics courses at the Ohio State University, the University of Illinois at Urbana-Champaign and Parkland College. I was also on the faculty of the Institute for Public Utilities at Michigan State University for many years where I was an invited lecturer at the Institute's Annual Regulatory Studies Program ("Camp NARUC"). I have testified before many state regulatory commissions, as well as before the Federal Energy Regulatory Commission, the Federal Communications Commission, various state and Federal courts, and the Iowa and Illinois General Assemblies on issues concerning public utility regulation.

I received a B.A. in Economics from Indiana University of Pennsylvania, an M.A. in Public Utility Economics from the University of Wyoming, and a Ph.D. in Economics from the University of Illinois at Urbana-Champaign.

Q3. HAVE YOU PROVIDED TESTIMONY TO THE MISSOURI PUBLIC SERVICE COMMISSION?

A. Yes. I provided pre-filed testimony in Case Nos. WR-2011-0337 and SR-2011-0338 on the issue of consolidated tariff pricing.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q4. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. I have been asked by Missouri-American Water Company ("MAWC" or "Company") to provide a policy opinion on the movement toward Consolidated Tariff Pricing ("CTP"). CTP refers to the practice of combining previously separate pricing districts or zones into a single company-wide pricing zone. Much of my opinion in this case has not changed from my previous analysis of the issue provided in Case Nos. WR-2011-0337 and SR-2011-0338.

Q5. WOULD YOU PLEASE SUMMARIZE YOUR DIRECT TESTIMONY IN THIS DOCKET?

A. After reviewing the advantages of CTP for MAWC, I have concluded that CTP provides significant public policy benefits to consumers, MAWC, and to the Missouri Public Service Commission ("MPSC" or "Commission") and MAWC's further movement toward CTP should be approved. Further, I conclude that the

arguments in favor of CTP are stronger today than at any time in the past largely because the issues that lead to the need for CTP are more acute today than in the past.

III. INTRODUCTION TO CONSOLIDATED TARIFF PRICING AND ITS ROLE IN TODAY'S WATER INDUSTRY

Q6. WOULD YOU PLEASE SUMMARIZE YOUR UNDERSTANDING OF THE "CTP" PROPOSAL IN THIS DOCKET?

A. In this docket, the Company proposes to further continue its movement toward consolidating pricing for its water services, as well as its movement toward consolidating pricing for its wastewater services.

Q7. IS CTP A COMMON FORM OF PUBLIC UTILITY PRICING?

A. Yes. Consolidated tariff pricing is the most common form of public utility pricing and refers to the combination of the cost to serve an entire utility's service territory into a single price for all consumers. Examples of this approach include natural gas and electric distribution rates that span significant geographic areas.

Q8. WHAT IS THE ALTERNATIVE TO CTP?

A. The alternative to CTP is some form of zonal or district pricing in which customers are grouped in geographical regions for the purposes of creating prices that differ between zones or districts. The most obvious form of zonal pricing is the so-called locational marginal prices used in large electricity wholesale markets such as PJM and MISO. In addition, it is common for zonal prices to remain for a transition period after the merger of utilities. This, of course, is the case with

MAWC, but other examples include Ameren's downstate Illinois gas and electric territories after the mergers of the former Central Illinois Public Service with Union Electric to form Ameren and, later, Ameren's acquisition of the former Illinois Power and Central Illinois Light Company. Generally, however, such zones tend to vanish over time as the new utilities consolidate their operations.[1]

Q9. WHY WOULD REGULATORS APPROVE NON-CTP RATES?

A. There could be good reasons to approve disaggregated or zonal pricing. For example, in the electric utility wholesale market congestion on the transmission system can cause large costs on society. Allowing for prices to change by location or zone sends a price signal concerning the cost of congestion on the system. This price signal provides an incentive for appropriate economic behavior by inducing investment in the transmission system up to the point where the value of reducing the constraints (i.e., the reduction in locational prices) just meets the costs of reducing that congestion (either installing new generation or installing new transmission or perhaps some combination of both options). Further, one could imagine a situation where a utility's service territory that is so dramatically different from location to location (e.g., a mountainous region next to a flat plain) that the costs could never be similar enough to incorporate into the same rate structure.

[1] It is my understanding that while Ameren Illinois maintains different rate zones for electric service the rates for basic service for most customers are identical in those zones. Ameren Illinois also maintains separate rate zones for gas service, though the rates appear to be converging over time.

Q10. YOU NOTED ABOVE THAT YOU HAVE PROVIDED TESTIMONY ON THIS ISSUE IN THE PAST, NAMELY CASE NOS. WR-2011-0337 AND SR-2011-0338. WHAT WAS THE RESULT IN THAT DOCKET CONCERNING CTP?

A. It my understanding that a non-unanimous stipulation and agreement was filed with the Commission and the Commission determined that the agreement was in the public interest and approved the settlement. In that agreement, eight (8) water districts and eight (8) sewer districts were created. The eight water districts were created by combining previously separate districts, though District 8 does have prices that vary based on the rate structure (i.e., flat rate v. flat rate with commodity charges).[2]

Q11. WHAT WAS THE RESULT OF THE AGREEMENT?

A. As to CTP, the Commission approved some movement toward CTP by combining several districts. (MAWC 2012 Rate Order, pp. 3-4)

Q12. HOW DOES CTP FIT INTO THE CURRENT WATER INDUSTRY?

A. The water industry differs significantly from the gas and electric industries in the sense that the water industry has traditionally been far more fragmented. According the Environmental Protection Agency (EPA), as of 2010, there were over 52,000 Community Water Systems (CWS) - water systems that supply water

[2] Appendix A to *Non-Unanimous Stipulation and Agreement*, filed in Case No. WR-2011-0337 (Consol.) as approved by the Commission in: *In the Matter of Missouri-American Water Company's Request for Authority to Implement A General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas*, ("MAWC 2012 Rate Order") File No. WR-2011-0337, et al., Effective Date, March 16, 2012. The Order in this case also identifies the water districts combined into the new eight districts. (MAWC 2012 Rate Order, pp.3-4)

to the same population year round.[3] This number is much larger than the natural gas and electric industries, which both have around 3,000 providers respectively.[4] According to the EPA, about 77 percent of CWS are classified as "small or very small," which means they serve between 25-3,300 customers respectively. These small systems serve about 30 percent of customers, while the remaining CWS serve 70 percent of customers.[5] This illustrates the fragmentation of the water industry. Unlike the gas and electric industry, the water industry is populated with many small companies that do serve small populations. The larger companies that are present in the industry serve the bulk of the population.

The water industry experiences many inefficiencies because of the fragmentation of the market and the role of these smaller systems. First, the smaller systems have struggled to keep up with the regulatory burdens imposed by various regulatory agencies. These small systems find it increasingly difficult as the Federal government has imposed more and more stringent environmental regulations (the Clean Water Act, the Safe Drinking Water Act, EPA Regulations etc.). These regulations come with increased costs of compliance that small companies find hard to afford.[6] For example, the EPA estimates that compliance

[3] United States Environmental Protection Agency, Public Drinking Water Systems: Facts and Figures, http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm.

[4] American Water, White Paper, "Challenges in the Water Industry: Fragmented Water Systems", http://www.amwater.com/files/Challenges%20In%20The%20Water%20Industry%20Fragmented%20Water%20Systems.pdf.

[5] United States Environmental Protection Agency, Public Drinking Water Systems: Facts and Figures, http://water.epa.gov/infrastructure/drinkingwater/pws/factoids.cfm.

[6] American Water, White Paper, "Challenges in the Water Industry: Fragmented Water Systems", http://www.amwater.com/files/Challenges%20In%20The%20Water%20Industry%20Fragmented%20Water%20Systems.pdf.

with the Safe Water Drinking Act costs an average of $4 per household per year for systems serving more than 500,000 people, but $300 per household per year for systems serving no more than 100 customers.[7] Further, the water industry is extremely capital and cost intensive (more than the gas and electrical industry), since most costs are long-term fixed property, plant and equipment. The water industry also faces the problem of aging infrastructure. These costs cannot be reduced in the short-run, which further burdens these small companies.[8] Finally, these smaller companies struggle to keep up with the administrative burdens such as timely rate filings, which means they are not able to accurately recover their cost of service within their rate.[9] The inability of small water companies to keep up with administrative and regulatory burdens as well as deal with capital costs, coupled with the prevalence of these companies creates inefficiencies within the water industry.

The inefficiencies associated with the fragmentation of the water industry provide the opportunity for consolidation. When water companies expand their customer base they are able to reduce inefficiencies associated with smaller water companies. As a result, larger water companies have begun to acquire these smaller, inefficient systems and smaller systems have begun to merge in order to take advantage of economies of scale. These larger water systems are better able

[7] Congressional Budget Office, "Future Investment in Drinking Water and Wastewater Infrastructure", November 2002. https://www.cbo.gov/sites/default/files/11-18-watersystems.pdf.

[8] The Brattle Group, "Alternative Regulation and Ratemaking Approaches for Water Companies", Prepared for the National Association of Water Companies.

[9] Selby Jones, "Acquisitions and Consolidation in Arizona's Water and Wastewater Industry", http://ausconsultants.com/acquisitions-consolidations-arizonas-water-wastewater-industry/.

conform to regulatory burdens and deal with the capital costs associated with upgrading infrastructure by spreading the capital costs over a larger customer base. The concentration and consolidation of companies in the water industry results in increased efficiency. This increase in efficiency allows for lower costs to serve customers as well as improved service.[10]

IV. CONSOLIDATED TARIFF PRICING BENEFITS CONSUMERS, THE REGULATORY ENVIRONMENT, AND PROVIDES POSITIVE PUBLIC POLICY INCENTIVES TO PRIVATE WATER COMPANIES

Q13. WHAT IS YOUR CONCLUSION ABOUT CTP?

A. Regulation is a practical response to a market failure; regulators, as a matter of practice, have generally erred on the side of less complexity in pricing. Indeed, perhaps the most well-known treatise on public utility rates, Professor Bonbright's *Principles of Public Utility Rates*, lists simplicity and economy in collection of payment as two important criteria in a sound rate structure.[11] Where more complex pricing is employed, such as real-time pricing for electric commodity, it is employed when a clear consumer and societal benefit is demonstrated. In the case of pricing largely fixed cost systems such as natural gas

[10] See American Water, White Paper, "Challenges in the Water Industry: Fragmented Water Systems", http://www.amwater.com/files/Challenges%20In%20The%20Water%20Industry%20Fragmented%20Water%20Systems.pdf. and Water Online, "Merger and Acquisition Activity in the Water Industry", October 15, 2014. http://www.wateronline.com/doc/merger-and-acquisition-activity-in-the-water-industry-0001.

[11] J.C. Bonbright et. al *Principles of Public Utility Rates*, PUR Inc., 1988, p. 384.

distribution, electricity distribution, or water systems, the societal benefit of more granular pricing is less obvious and regulators, quite rightly, tend to focus on other policy concerns such as universal service.[12] One of the primary concerns of regulators has been the ability to assure that the essential services provided by public utilities are as widely available at reasonable prices to as many members of society as possible at rates that compensate the utility for the total costs incurred inclusive of a fair return. CTP represents one pricing method that promotes simple and understandable tariffs that meets this regulatory goal.

Frankly, the economic benefits of more closely connecting costs with prices are not likely to be significant in this case. This is because the dominant costs incurred by MAWC on a going forward basis are the fixed costs associated with meeting clean water standards and water distribution and collection requirements. The economic benefits of more granular cost-based prices arise in the cases where marginal costs vary significantly across services and where setting prices based on these different marginal costs can influence consumption levels. When prices influence consumption levels and, in turn, investments, society benefits from more granular prices as the reallocation of resources that result from granular pricing ensure that society's scarce resources are efficiently allocated. Promoting safe drinking water per the Safe Drinking Water Act and service reliability through the replacement of aging infrastructure, however, requires that substantial investments are made that cannot be avoided. In this case the role of the rate

[12] There may localized factual concerns, such as large historic sunk costs, that can cause regulators to abandon the simplicity principle, but in my opinion those concerns are not present here.

structure becomes one of fairly and efficiently recovering the cost of the needed investment.

Moreover, the total variable costs of chemicals, treatment, and power are not likely to vary significantly (relative to the fixed costs) from region to region suggesting that the economic price signal (i.e., marginal cost) is relatively weak. In sum, if the main economic benefit from more granular cost-based pricing is largely absent, as it seems to be in this case, it is incumbent on regulators to address the broader public interest issues such that all consumers can have access to safe and affordable water supplies. (The water industry is not the only industry with this problem, for example, consider a gas distribution system. For the most part, the marginal costs of production are related to gas costs, which do not vary much across a system. The fixed costs of the system are largely the same whether or not the system is fully integrated.)

Q14. YOU MENTIONED THAT CTP IS THE MOST COMMON FORM OF PUBLIC UTILITY PRICING, WOULD YOU PLEASE ELABORATE?

A. The public utility concept was born out of a concern that private companies providing essential services became "clothed in the public interest" and that these industries were, in effect, natural monopolies and, as a result, may charge high prices causing some customers to be pushed out of the market for public utility services.[13] The services provided by these public utilities, such as water, gas, electricity, and even wireline telephone services, were considered a virtual

[13] A natural monopoly refers to firm that can serve the market demand at a lower cost than allowing multiple firms into the market.

necessity. As necessities, the public interest dictated that government regulate these services in order to assure universal service, while maintaining prices that provided incentives for the utility to invest capital in the system.

Initially, regulation was not focused on the traditional economic issue of providing customers with signals regarding the relative value of substitute services. Since the natural monopoly implied that there were no substitutes, the regulator could use price largely as a mechanism to recover the total necessary and prudent revenue to provide a standard quality level while providing services to all comers. The focal point was to ensure that sufficient revenues were recovered to enable services to reach as wide a population as possible at a reasonable price. The fact that costs may vary, in some cases dramatically across a given utility's service territory, was, at most, a secondary concern.

This second problem was associated with a natural monopoly's potential incentive to unduly discriminate against some customers by exploiting their market power. The desire of regulators to avoid monopoly exploitation, and yet provide effective incentives for maintaining the system, resulted in utility tariffs being set in accordance with costs to the extent reasonable. Regulators generally did not allow utilities to charge different prices to different consumers except where there are clear advantages to doing so (e.g., large volume customers generally pay different prices than low volume customers for obvious and logical reasons). Therefore, in most areas of the country, and globally as well, a residential customer taking, for example, electric delivery service from an electric utility will pay the same price no matter where the customers resides. For example, a customer of a large electric

utility, such as Ameren Missouri, may reside in a rural area that requires significantly more investment per customer than a customer residing in the city of St. Louis, yet both customers pay the same base delivery charge for electricity even if the two electric distribution systems are not physically connected to each other.

The same is true for gas utilities. Many gas utilities, much as in the case of water utilities, grew in the 1950s and 1960s by purchasing smaller systems to create larger systems in order to take advantage of the economies of scale associated with such systems. Theses gas systems may or may not be physically interconnected, yet regulators have generally insisted that prices be the same for all consumers to promote universal service and avoid the appearance of discrimination. Moreover, there are many cases where gas delivery systems owned by different companies are interconnected and yet regulators *require* different rates. For example, the Peoples Gas Light and Coke Company is integrated with Nicor Gas in Northern Illinois in the sense that the companies have pipes that are connected. The fact that these systems are interconnected is not determinative of the policy of utilizing CTP or differentiated pricing system. Regulators clearly are looking at other factors in making the determination about pricing policy. Consolidated pricing solves two major public policy questions by making it easier for the regulatory body to control the utility's prices while promoting universal service and avoiding discrimination.

Q15. WHAT ARE THE BENEFITS OF CTP?

A. Beyond the obvious public policy benefits described above, the following benefits are important for considering the movement to CTP:

1. **Better incentives for standard water quality:** One of the key benefits of CTP is enabling recovery of government mandated environmental investment as well as other service quality related water investments. When water utilities have Balkanized rates structures, the rate impacts of mandated investment may adversely affect customers in one region, not because such investments are imprudent or do not serve a useful societal purpose, but solely because consumers happen to live in an area that was previously served by a utility that could not continue to cost-effectively serve that community and the service territory was sold to a larger utility. Maintaining these disparate rates structures can, in effect, promote discrimination in the quality of water service across the service territory—an issue as important, or perhaps even more important than price discrimination. As noted above, typically regulators wish to remove discrimination from public utility service where such discrimination promotes no socially advantageous objective. As an aside, it is instructive to note that many competitive markets price uniformly or nearly uniformly to take advantage of the lower administrative costs and potentially as a strategic tool to signal to customers that they will be treated equally and, thus, fairly.[14]

2. **Better incentives for larger water companies to purchase small under-performing water companies:** In the past few decades, the water industry has

[14] *Consolidated Water Rates: Issues and Practices in Single-Tariff Pricing,* September 1999, US Environmental Protection Agency, Office of Water (EPA CTP Report) p. 65, provides a review of discrimination in different market structures.

changed dramatically as I noted above. Many smaller water systems simply cannot attain the economies of scale needed to support the necessary investment and, as a result, the quality of water suffers. (In fact, the Federal government underwent an analysis to determine if it was even economically feasible for some small water companies to meet national standards.) CTP provides an incentive for investment in these small water companies as utilities can recover the cost of needed investment over a larger customer base. This promotes a more ubiquitous water infrastructure investment in the state and brings cost-effective, higher quality, water services to a larger number of citizens. To the extent that CTP provides a better incentive to consolidate water and wastewater districts these resource efficiencies can be shared with a broader group of Missouri citizens.

3. **Promotes state economic development goals:** In an age of intense regional and global competition, the advent of new clean water standards has added one more dimension to the competition for jobs and population among states. A public policy problem has been created for states wishing to put the best face on the quality of life in their state. Those states with poor and inconsistent utility services will often fare poorly in quality of life and general attractiveness dimensions of this global competition. Non-standardized pricing can create an inconsistent and Balkanized water system for the state. CTP allows larger companies to spread the fixed cost of providing quality water service over a larger customer base creating a higher quality of water for the entire system and state.

4. **Improves affordability for all consumers:** It is understandable why people that live in areas that are currently receiving service at lower cost than the average

would not want to pay for new investments in other regions of the state. CTP, however, creates benefits for all consumers in the long-run. Typically those consumers that pay lower than average prices do so because of aging and therefore depreciated investment. At some point in the future the utility will need to invest in all regions of the state, CTP mitigates the effect of lumpy investment for all consumers while promoting a standard quality of service for the entire region. Indeed, this is the typical justification for many public infrastructure investments including public universities, roads and highways, and airports and seaports, and, of course, public utility infrastructure.

5. **Lower administrative and regulatory costs:** Simplifying rate structures also leads to lower administrative costs as utilities can more easily help consumers who have questions, lower the cost of billing and collections, and reduce the regulatory cost of filing separate rate proceedings or at least separate filings within a single rate proceeding. While some may see these costs as trivial, in today's financial environment lowering the cost of providing service, in any way feasible, should not be overlooked as a potential benefit, especially when the economic benefits of the alternative, that is, district specific pricing, are not obvious. The Missouri Public Service Commission has recognized that there is a cost and a burden in maintaining separate tariffs.[15] (Presumably the term *burden* was used by the Commission to distinguish factors other than increases in easily quantifiable costs that cause separate tariffs to be difficult to maintain. Such factors might include more complex customer service calls, reduced ability to

[15] Order in Case No. WR-2006-0425, p. 35.

forecast revenues, perhaps even more difficulty in planning for capital additions as a result of inconsistent tariff structures.)

6. **Creates a consistent regulatory approach for all public utilities:** Due to the lumpiness of investment, at any given time using a simple, static cost study will give a distorted picture of the true long-term differences in costs between different regions of any large public utility. This is another reason why public utility rates tend to be standardized across an entire utility service territory. Consider, for example, the electric distribution system in a large metropolitan area. Investment inside the city may have been completed many years ago while investment in high growth areas in the outer suburbs was more recently completed, and often at a much higher cost due to inflation and the lower population density. Taking a static, cost of service view of this situation would lead one to the erroneous conclusion that it is significantly more costly to serve suburban customers and those consumers should pay a higher rate. Yet, over time, the investment in the city must be replaced and gentrification in large areas of the city require more investment thereby rendering the conclusion that cost differs significantly between regions suspect. (Indeed, there are some factors that make it *more* costly to build infrastructure in a more densely populated area.) A similar argument can be made for gas distribution companies and water companies. This is not to argue that one could not find cost differences between areas, certainly one could always find such differentials, but the more pertinent question is related to the policy goals of the Commission and the creation of a consistent regulatory structure that promotes the best service for the largest number of customers. Moreover, district

specific pricing engenders the same cost averaging as CTP, only over a smaller area. Costs of service differ within a district and sometimes even within a neighborhood, yet we ignore those cost differentials in setting rates for many of the same reasons discussed in this testimony.

V. NATIONAL POLICY HAS TRENDED TOWARD CONSOLIDATION OF TARIFFS

Q16. WHAT EVIDENCE CAN YOU PROVIDE ON THE NATIONAL POLICY TOWARD CTP?

A. In 1999, a comprehensive survey of state commissions found that eight states generally accepted CTP while 14 states found CTP appropriate on a case-by-case basis. The remaining states had, at the time, never considered the issue, did not have jurisdiction, or did not have multi-system utilities.[16] I have reproduced the data tables from this report for the Commission's convenience and attached it to my testimony as Schedule KAM-2. In this exhibit one can see that several states considered and rejected CTP for a variety of reasons. Since 1999, however, the cost and quality pressure on the water industry has become more apparent and more states are now considering and approving CTP. My updated survey of state CTP policies appears as Schedule KAM-3. Schedule KAM-3 is an updated version of the survey I provided in my previous testimony on this issue. It is clear from a comparison of the two schedules that state regulators are moving toward more consolidation of water rates. For example, there are now 10 states that

[16] EPA CTP Report

generally accept CTP and 21 states that review on a case-by-case basis. Particularly telling is the movement of those states that had not considered the issue by 1999 (5), to now only one state (Wisconsin) that has not considered the issue. Of the other four states not to have considered the issue by 1999 (IA, KY, LA, and ME), two have now generally accepted CTP and the other two have accepted CTP on a case-by-case basis.

Q17. COULD YOU EXPLAIN WHY STATE REGULATORS ARE MOVING TOWARD CTP?

A. One of the key findings of the EPA CTP Report was that in states where regulators did not approve CTP the most often cited reasons were related to the differences in cost of service. That is, regulators felt that cost of service differentials were significant enough that low cost regions were subsidizing high cost regions. From a static cost of service perspective, many perceive that any price below the fully allocated cost is, in some way, unfair. In the past decade, however, regulators appear to be recognizing other factors that are important to the decision and have been more receptive to CTP. These factors include removing disparate pricing across a state, providing incentives for larger water companies to consolidate smaller companies, mitigating rate shock, and providing a standard regulatory approach to pricing.

Q18. WHAT EVIDENCE DO YOU HAVE THAT STATES ARE TAKING OTHER FACTORS INTO ACCOUNT BEYOND STRICT COST OF SERVICE FACTORS?

A. For example, in an Indiana-American case, the Indiana regulators accepted the movement toward full CTP by recognizing that some static rate subsidies are going to exist and that other factors must be taken into account.

> The [Indiana Commission] believes that rates should be cost based, but we do not pursue this objective blindly and without consideration of other objectives. While we are sympathetic to…[the]…desire for cost-based rates, the [Indiana Commission] believes the small subsidies that result from the movement to STP are outweighed by the benefits that accrue to customers…The [Indiana Commission] first approved…STP in 1997, and Indiana American has gradually implemented STP since our approval granted in the 1997 Rate Order. When originally approving STP, the [Indiana Commission] stated, "[W]e believe that in the long-term all areas will benefit by increased rate stability and mitigation of the impact of construction projects in their communities." [cite omitted] We find this to still be true; these considerations outweigh the general objection raised…with respect to the small subsidy provided by residential and commercial customers.[17]

The Iowa Utilities Board (Board) recently concluded that the long term cost is the key cost to focus on in determining whether CTP is appropriate.

> The Board believes now is the time to equalize most of Iowa-American's rates; the different costs of serving each district do not appear to be significant enough in the long term to justify the additional effort and administrative expense necessary to maintain them as separate groups.[18]

The Board further explained the value of rate mitigation and simplification in justifying its CTP decision:

> It is important to spread the impact of future plant additions over a broader customer base in order to provide customers with greater rate stability and lessen the impact of major construction projects on customers in a particular district….Also, a single rate structure would be more understandable to customers. (Id.)

The New Hampshire Public Utilities Commission, in approving a rate consolidation in 2005, noted that its policy was to consolidate rates because of the

[17] IRUC Order in Cause No. 43680, April 30, 2010, p. 104.

[18] Order in Docket No. RPU-2009-0004, Iowa Utilities Board.

"wide disparity of rates among customers" that would occur without consolidation.[19]

The Pennsylvania Public Utilities Commission, in a general proceeding, recognized that "that every system and every ratepayer in the Commonwealth will eventually be in need of specific service improvements and at that point, the true benefits of single tariff pricing will be realized by all citizens in the Commonwealth."[20]

It is certainly true that some state commissions are very concerned with cost factors (i.e., subsidization). Yet even states, such as California, where differences in water costs between different regions can be far more dramatic than in Missouri, never-the-less recognize that there are other factors that may override cost concerns. California has approved rate consolidation for Southern California Water Company and recognized other factors, e.g., affordability, are important to take into account.[21] These are just a few examples of the reasoning used by state PUCs to implement CTP.

Q19. WHAT DO YOU CONCLUDE FROM THIS EVIDENCE?

A. Rate consolidation is a policy issue. States which have embraced consolidation have done so for a significant number of pragmatic reasons. Recognizing that the universal availability of clean drinking water constitutes a major public good that

[19] NH PUC Order in Docket No. 05-112.

[20] PENN PUC Docket M-00950686, 1996.

[21] CPUC D. 00-06-075, June 22, 2000.

promotes both economic and social benefits, commissions have enumerated the following rationales:

1. The health and safety of smaller water system quality
2. Larger customer bases ameliorate the impact of larger capital additions
3. Larger customer bases provide revenue stability and improved financial capabilities
4. Helps insulate customers from rate shocks associated with large capital additions
5. Helps achieve affordable rates for all customers
6. Promotes the achievement of economies of scale
7. Administrative simplicity

The consolidated tariff approach takes a long run view of serving the state on a total company basis. The aggregation of all customers across the total system provides an ability of the system to absorb the costs of serving all customers on a more equitable basis. Cost of service regulation always involves some degree of cost averaging. The administrative costs of calculating each individual customer's specific costs far outweigh the benefits of such calculations. Customers of the same class under consolidated pricing will pay rates that reflect the costs of providing similar service across the total company. This avoids the wide disparity in rates that could arise so that customers ultimately pay the same rate for contemporaneous service provided under substantially similar conditions or circumstances. This approach avoids the undue discrimination that could arise from significant rate disparities for this essential public service.

While cost of service can provide guidance in setting rates, other factors such as affordability, standard quality of service, and ease of implementation are important and need to be considered. CTP has become a more important policy issue in the past decade as water quality standards have changed making some small water systems not sustainable. Regulators have recognized that the private sector can play a role in solving these public infrastructure problems by providing incentives to expand service into some of these areas. CTP is just such a policy and many regulators have recognized the positive role that uniform rates can play in preventing rate shock, increasing investment, and providing standard water quality to as many citizens as feasible.

Q20. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?

A. Yes.

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KARL A. MCDERMOTT, PH. D.
SPECIAL CONSULTANT

Karl McDermott is the Ameren Distinguished Professor of Business and Government at the University of Illinois, Springfield and a Special Consultant to National Economic Research Associates, Inc. (NERA). Professor McDermott specializes in public utility regulation and public policies toward the regulation of business. Prior to taking the Ameren Professorship, Dr. McDermott was a Vice-President at NERA where he directed and participated in numerous projects in both the energy and telecommunications areas. His main focus has been the development of performance-based regulation mechanisms and advising clients on strategic regulatory options. Recent projects include evaluating and developing performance-based regulation plans and strategic regulatory options for Commonwealth Edison Company, Wisconsin Electric Power Company, Xcel Energy, Otter Tail Power, Peoples Energy, Louisville Gas and Electric, PowerGen, and Pacificorp. In addition, Dr. McDermott advises clients on competitive electric and gas markets including regulatory policy, generation location decisions, unbundling, tariff design, and corporate reorganization. Representative projects include an examination of essential facilities in the electric industry for the Edison Electric Institute, tariff design and competitive electric generation sitting for Southern California Gas Company, and unbundling of metering and billing, competitive declarations of tariffs and procurement options for Commonwealth Edison Company. He has testified before numerous state regulatory commissions and legislatures, as well as before the FCC and FERC and Missouri state court. Dr. McDermott lectures extensively on regulatory reform and restructuring and currently serves as an instructor for National Association of Regulatory Utility Commissioners summer seminars and advanced seminars.

Prior to joining NERA, Dr. McDermott served as Commissioner on the Illinois Commerce Commission during the negotiation of the Illinois restructuring law. He has also assisted the country of Poland since 1994 with their efforts to privatize and restructure their electric supply industry. As a Commissioner, Dr. McDermott also lectured extensively in Eastern Europe and South America on regulatory reform and restructuring.

Dr. McDermott received his Ph.D. in Economics from the University of Illinois at Urbana-Champaign, his M.A. in Public Utility Economics from the University of Wyoming, and his B.A. in Economics from Indiana University of Pennsylvania.

Karl A. McDermott

Education

University of Illinois at Urbana-Champaign
Ph.D., Economics, 1990
Major Fields: Monetary theory and Policy, Macroeconomic Theory, and History of Economic Thought

University of Wyoming
M.A., Public Utility Economics, 1978
Major Fields: Public Utility Economics and Industrial Organization Theory

Indiana University of Pennsylvania
B.A., Economics, 1976

Professional Experience

University of Illinois at Springfield

2008- Ameren Distinguished Professor of Business and Government

NERA Economic Consulting

2008- Special Consultant

1999-2008 Vice President
Directs projects in the energy and telecommunications fields. Conducts research in the design and review of performance-based regulation mechanisms. Provides strategic regulatory advice to international and domestic clients. Advises on competitive issues facing regulated firms, including regulatory policy, unbundling, corporate structure, and tariff design.

McDermott Associates

1998-1999 President
Directed projects in the energy and telecommunications fields focusing on performance-base regulation, electric industry restructuring, and competition policy issues.

Illinois Commerce Commission

1992-1998 Commissioner
Domestic: Served as Chairman of both the Telecommunications Policy Committee and Electricity Policy Committee. Served on the National Association of Regulatory Utility Commissioners (NARUC) Energy Resources and Environment Committee as the Chairman of its environmental subcommittee. Reviewed and voted on Illinois Bell Price-Cap plan, Peoples Gas PBR and MidAmerican Electric PBR. While a commissioner, made over one-hundred presentations and speeches on telecommunications, electricity, and natural gas industry topics. Also served as NARUC representative on the President's Global

Climate Change Task Force, the Federal Energy Regulatory Commission's Pipeline Competition Task Force, the National Coal Research council, and as a member of the Harvard Electric Policy Group.

International: In addition to regular Commission duties, served as part of the United States Energy Association and USAID educational effort in Eastern Europe. Lectured in Argentina, the Czech Republic, Latvia, Poland, Romania, Russia, and Slovakia and participated in two joint USEA/USAID and World Bank seminars in Vienna providing advanced regulatory training. While a commissioner, hosted visits with the above-listed countries, as well as Bulgaria, Lithuania, and Estonia.

Additional Professional Experience

Michigan State University, Institute for Public Utilities

2001- Faculty

Invited lecturer at Regulatory Studies Program ("Camp NARUC") held in East Lansing, Michigan. Lecture topics include performance-based regulation, rate-of-return regulation, infrastructure regulation for developing countries, and gas wholesale markets.

Center for Regulatory Studies, Inc.

1985-1998 Chairman of the Board

1985-1992 President

As a cofounder, involved in all aspects of operations, including fundraising, organization, and program development. Focused on the development of statewide energy planning options for the State of Illinois, the introduction of competition into the natural gas market, environmental issues in Illinois, and competition in the Illinois telecommunications market. Conducted research on the use of competitive bidding and avoided-cost pricing mechanisms to acquire electricity supplies, the role of demand-side management in electricity supply planning, and the use of incentive mechanisms and the role of incentive regulation in our current regulatory environment.

Argonne National Laboratory

1988-1992 Research Scientist

Served as an economic advisor to the office of Fossil Energy at DOE. Helped investigate possible ways to promote development of innovative emission control technologies and Clean Coal Technologies in the electric utility industry, as part of the Presidential Task Force on Regulatory Relief. Assignments also involved the writing of a chapter in the State of Science and Technology Report No. 25 of the National Acid Precipitation Assessment Program (NAPAP) concerning the use of tradable emission permits to control acid rain. In addition, worked on incentive mechanisms to promote clean coal technology and the trading of greenhouse gas emissions. Also performed research on the nature of individual's

risk perception regarding nuclear waste deposits on behalf of the office of Radioactive Civilian Waste Management at the Department of Energy.

NARUC Introductory Regulatory Training Program

1989-2006 Instructed new public utility commission employees from various state commissions on the basic economic issues confronting regulators.

Illinois State University, Department of Economics

1986-1992 Lecturer in Economics
Taught both graduate and undergraduate public utility courses, Money and Banking, as well as introductory courses.

Parkland Community College, Champaign, Illinois

1984-1991 Instructor in Economics
Taught both Principles of Economics I and II.

University of Illinois, Urbana-Champaign

1984-1986 Teaching Assistant
Taught both Principles of Economics and Introduction to Econometrics. Served as supervisory assistant in charge of coordinating Economics 101 assistants for Professor Fred Gotthiel.

Illinois Legislature, Select Joint Subcommittee on Regulatory Reform

1983-1985 Consultant
Investigated the effects of the AT&T divestiture and FCC decisions upon Illinois telephone utilities and assisted in identifying issues that require legislative action. Presented issue reports to the telecommunications subcommittee and served on the local exchange subgroup in developing recommendations for a new Illinois Public Utilities Act.

Department of Energy and Natural Resources, Governor's Sunset Task Force on Utility Regulatory Reform

1980-1982 Consultant
Delivered written and oral reports on the issues of power plant certification, monitoring of construction costs, and allocation of power plant cancellation costs.

Illinois Commerce Commission, Policy Analysis and Research Division

1980-1983 Economic Analyst III
Conducted research investigating the development and use of incentive mechanisms in utility regulation. Prepared and presented testimony on the use of incentive mechanisms in power plant construction. Conducted research and assisted in developing testimony on the cost of service for electric generation to meet PURPA requirements. Assisted in the development of proposals for PURPA innovative rates projects on productivity and time-of-use pricing; cost-benefit analysis. Assisted in the management of consultants conducting the TOD cost-benefit study. Prepared and presented testimony on the time-of-day pricing

standards to meet the PURPA requirements. Prepared and presented testimony regarding the use of q-ratios in determining rates-of-return for Illinois Bell Telephone Company and testimony regarding appropriate cost and pricing methodology and philosophy for Illinois Bell Telephone Company. Assisted in the investigation of capacity expansion, lifeline rates, efficiency measurement, and impact of deregulation in electric generation, water rate design, and investigated the impact of investment tax credit changes on utilities.

Ohio State University, National Regulatory Research Institute

1978-1979 Senior Research Associate

Conducted research in the areas of telecommunication licensee contract fees and cost of service, the effects of budget billing plans on utilities and consumers, as well as methods of monitoring fuel adjustment clauses. Assisted in research regarding marginal and average cost pricing, time-of-use pricing, power plant productivity, and the examination of cost and price differences of Ohio municipal gas rates. Assisted in the management of consultant subcontractors, as well as supervising the presentation of cost and load research seminars.

Ohio State University, Department of Economics

Fall 1979 Lecturer in Economics

Taught Macroeconomic Principles.

Action Computing, Laramie, Wyoming

1977-1978 Cost Analyst

Developed cost data for competitive pricing of bids for the provision of computer services provided by Action Computing.

University of Wyoming, Laramie

1976-1977 Graduate Research Assistant

Assisted professors in conducting research and teaching of Principles of Economics.

Honors and Professional Activities

Distinguished Alumni Award Indiana University of Pennsylvania 2001

Alpha Lambda Delta Outstanding Freshman Teacher Award, University of Illinois, 1986

Thrift Prize, University of Illinois, for paper entitled "The Allocation of Savings: An Investigation of Portfolio Composition of Chicago Households," 1983

President Elect and President, Illinois Economic Association, 1988-1990

Member, Alpha Lambda Delta Honorary Society

Member, American Economic Association

Member, Transportation Public Utilities Group of American Economic Association

Member, Illinois Economic Association

Representative Projects

Evaluation and design of performance based regulation for clients, including Detroit Edison Company (bundled electricity service), Michigan Consolidated Gas (gas distribution), Otter Tail Power (bundled electricity service), and Xcel Energy (bundled electricity service), among others.

Evaluation of damages from coal-fired power plant explosion for Kansas City Power and Light (Hawthorn 5 unit).

Evaluation of prudence of certain distribution investments and O&M costs for Commonwealth Edison Company.

Evaluation of POLR responsibility in state of Illinois for Commonwealth Edison.

Evaluation of market structure options and development of tariff model for Macedonian electric sector.

Evaluation of future options for the reform of the Albanian electric sector.

Evaluation of electric industry structure and proper public policy toward utilities building power plants.

Estimation of potential energy efficiency gains for Wisconsin Electric Power Company (WEPCO) and Wisconsin Public Service Corporation in support of power plant construction.

Evaluation of tariff options for Otter Tail Power Company.

Evaluation of options for unbundled distribution rates and policies toward small-use customer choice for Illinois Power.

Review of gas rate design for peaking service and evaluated electric generation site decisions in California for Southern California Gas Company.

Publications

"Rethinking the Implementation of the Prudent Cost Standard," in *The Line in the Sand: The Shifting Boundary Between Markets and Regulation in Network Industries*, S. Voll and M. King (eds), 2007. (with C. Peterson and R. Hemphill).

"Mergers and Acquisitions in the US Electric Industry: State Regulatory Policies for Reviewing Today's Deals," *The Electricity Journal*, 20(1), pp. 8-25, 2007 reprinted in *The Line in the Sand: The Shifting Boundary Between Markets and Regulation in Network Industries*, S. Voll and M. King (eds), 2007 (with C. Peterson).

"Critical Issues in the Regulation of Electric Utilities in Wisconsin," *Wisconsin Policy Research Institute Report,* 19(3), pp. 1-69, 2006 (with C. Peterson and R. Hemphill).

"The Anatomy of Institutional and Organizational Failure," in *Obtaining the Best from Regulation and Competition,* M. Crew and M. Spiegel (eds.), Kluwer Academic Publishers, London, UK, 2005, pp. 65-92 (with C. Peterson).

"Performance-Based-Rates Upward Trend to Continue," in *Natural Gas and Electricity*, 20(6), 2004 (with C. Peterson).

"Is There a Rational Path to Salvaging Competition?" *The Electricity Journal,* 15(2), 2002, pp. 15-30 (with C. Peterson).

"Further State Electric Deregulation can be Guided by Gas Experience," in *Natural Gas and Electric Power Industries Analysis*, R.E. Willett (ed.), Financial Communications Company, Houston, TX, 2002, pp. 343-372 (with C. Peterson).

"The Essential Role of Earnings Sharing in the Design of Successful Performance-base Regulation Programs," in *Electricity Pricing in Transition,* A. Faruqui and K. Eakin (eds.), Kluwer Academic Publishers, London, UK, 2002, pp. 315-328 (with C. Peterson).

"Critical Issues in Consumer States Include Unbundling and Performance-based Regulation," in *Natural Gas Industry Analysis*, R.E. Willett (ed.), Financial Communications Company, Houston, 2000, 321-343.

"Are Residential Local Exchange Rates Too Low? Drivers to Competition in the Local Exchange Market and the Impact of Inefficient Prices," in *Expanding Competition in Regulated Industries*, M. Crew (ed.), Kluwer Academic Publishers, Boston/Dordrecht/London, 2000, 149-168 (with A. Ros).

Essential Facilities, Economic Efficiency, and a Mandate to Share: A Policy Premier, Edison Electric Institute, January 2000 (with K. Gordon, W. Taylor, and A. Ros).

"Pipeline Regulation Must go to One Extreme or Another," in *Natural Gas*, 15(9), April, 1999.

"Is There a Rational Path to Implementing Competition?" in *The Electricity Journal*, 9(1), Jan-Feb 1996.

"Changing Regulatory Incentives," in *Reinventing Electric Utility Regulation,* G. Enholm and J. Robert Malko (Eds.), Public Utility Reports, Inc. Vienna, VA 1995.

"The Evolution of the "Investment Systems:" Keynes' Theory of Employment and Money Revisited," in *Review of Social Economy*, 51(1), Spring 1993.

Discussant. "The Urban Ozone Abatement Problem," in *Cost Effective Control of Urban Smog.* R. Kosobud, W. Testa, and D. Hansan (Eds.) Federal Reserve Bank of Chicago. November 1993.

"Strategic Use of Incentive Mechanisms as a Regulatory Policy Tool," in *The Electricity Journal*. 5(10), December 1992.

"Electric Utilities: Control Cost Reducing Methods," Chapter 7 in *Technologies and Other Measures for Controlling Emissions: Performance, Costs and Applicability*, David South (ed.). National Acid Precipitation Assessment Program, State-of-Science/Technology Report, 25 January 1990.

"The Quantity Theory of Money of J. M. Keynes: From the Indian Currency to the General Theory" in *Perspectives on the History of Economics Thought.* D., Walker (ed.), Edward Edgar Publishing Co., Brookfield, VT, 1989 (with C. Marme).

Computer Assisted Regulatory Analysis and Its Potential Application to the Colorado Public Utilities Commission. The National Regulatory Research Institute, 1979 (with M. S. Gerber).

Towards an Analysis of Telephone License Contracts and Measured Rates. The National Regulatory Research Institute, 1979 (with A. G. Buckalew, and D. Z. Czamanski).

Budget Billing Plans for Electric and Gas Utilities: An Analysis and Some Recommendations for Change. The National Regulatory Research Institute, 1979 (with J-M Guldman and C. Odle).

Conference Papers and Presentations

The Determinants of Electric Utility Capital Structure: Re-Examining the Turbulent 1980s, presented at Center for Research in Regulated Industries, Rutgers University, Annual Western Advanced Regulatory Conference, Monetary, CA, June 2011. (with C. Peterson)

The Determinants of Commission Total Revenue Decisions: A Case Study of Illinois Energy Utilities, presented at Center for Research in Regulated Industries, Rutgers University, Annual Western Advanced Regulatory Conference, Monetary, CA, June 2011. (with C. Peterson and A. Everette)

Tale of Two Policies: A Re-examination of State Telecommunications Policy on The Protection of Universal Service & the Advancement of Competition in the Post- Divestiture Period presented at Center for Research in Regulated Industries, Rutgers University, Annual Eastern Advanced Regulatory Conference, Sky Top, PA, May 2011. (with C. Peterson and A. Ros)

Regulatory Risk: A More Comprehensive Examination and Empirical Test (keynote) presented at Center for Research in Regulated Industries, Rutgers University, Annual Eastern Advanced Regulatory Conference, Sky Top, PA, May 2010. (with C. Peterson)

Regulatory Policy on Local Telephony Competition: The Effects of State Policies on Re-Balancing, presented at Center for Research in Regulated Industries, Rutgers University, Annual Western Advanced Regulatory Conference, Monetary, CA, June 2009. (with C. Peterson)

W(h)ither the Public Utility Concept: Obsolete, Passing or Timeless, presented at Center for Research in Regulated Industries, Rutgers University, Annual Eastern Advanced Regulatory Conference, Sky Top, PA, May 2009.

Balancing Effective Regulation and Utility Control- Is Managerial Discretion (Prerogative) a Myth?, (keynote), presented at Center for Research in Regulated Industries, Rutgers University, Annual Eastern Advanced Regulatory Conference, Sky Top, PA, May 2008

The Uncertain Role of Profit in Regulation-A Love-Hate Affair, presented at Center for Research in Regulated Industries, Rutgers University, Annual Western Advanced Regulatory Conference, Monetary, CA, June
2008

The Essential Facilities Doctrine-Core Concept or Mere Epitaph (Keynote), presented at Center for Research in Regulated Industries, Rutgers University, Annual Eastern Advanced Regulatory Conference, Sky Top, PA, May 2007.

The Role of market processes in the design of dynamic incentives, presented at Center for Research in Regulated Industries, Rutgers University, Annual Eastern Advanced Regulatory Conference, Sky Top, PA, May (2006)(with C. Peterson)

Competition as the Foundation of Regulation- An Exploration in the History of Ideas, (keynote), presented at Center for Research in Regulated Industries, Rutgers University, Annual Western Advanced Regulatory Conference, Monetary, CA, June 22, 2006

Prudence: The Regulators Strike Back: A Prequel to the Revenge of the Regulator, presented at Center for Research in Regulated Industries, Rutgers University, conference held in San Diego, CA, June 2005.

Mergers and Acquisitions in the Electric Industry: A Review of State Regulatory Policies, presented at Center for Research in Regulated Industries, Rutgers University, conference held in Sky Top, PA, May 2005 (with C. Peterson).

The Anatomy of Institutional and Organizational Failure: Economic Reform and the Search for Institutional Equilibrium in Regulated Network Industries, preliminary draft presented at Research Seminar on Public Utilities, Center for Research in Regulated Industries, Rutgers University, October 2003 (with C. Peterson).

The Efficiency of the Inefficient Firm Standard in Setting Network Access Charges, prepared for 20th Annual Advanced Workshop in Regulation and Competition, Rutgers University, May 25, 2001 (with C. Peterson).

Designing the New Regulatory Compact: The Role of Market Processes in the Design of Dynamic Incentives, presented at *Incentive Regulation: Making it Work*, Advanced Workshop in Regulation and Competition, Rutgers University, January 19, 2001 (with C. Peterson).

The Use of Nontraditional Universal Service Programs in a Competitive Local Exchange Market, presented at the National Association of Regulatory Commissioners Biennial Conference, 1996 (with C. Schieber).

Incentive Mechanisms as a Strategic Option for Acid Rain Compliance, presented to the Future of Incentive Regulation in the Electric Utility Industry, November 1991 (with D. W. South and K.A. Bailey).

Role of Emission Allowances in Utility Compliance Decisions, presented at the Eighth Annual International Pittsburgh Coal Conference, October 1991 (with D. W. South and K. A. Bailey).

Clean Coal Technology and Emissions Trading: Is There a Future for High Sulfur Coal Under the Clean Air Act Amendments of 1990? P. R. Dugan, D. R. Quigley, Y. A. Attia (eds.), Processing and Utilization of High Sulfur Coals IV, proceedings of the Fourth International Conference on Processing and Utilization of High Sulfur Coals, Idaho Falls, ID, sponsored by the U.S. Department of Energy, et al., Elseveir Science Publishing Co. Inc., New York, NY (with K. A. Bailey and D.W. South).

Incentive Mechanisms as a Strategic Option in the Design of Regulatory Policies, presented at National Association of Regulatory Utility Commissioners, Committee on Electricity, Subcommittee on Strategic Issues, San Francisco, July 1991 (with D. W. South).

Achieving Efficiency Through Emissions Trading: Paradoxes, Misconceptions and Market Performance, presented at National Association of Regulatory Utility Commissioners, Committee on Electricity, Subcommittee on Environment and Efficiency, San Francisco, July 1991 (with D. W. South).

To Mitigate or Not To Mitigate: Regulatory Treatment of Emissions Trading Decisions and Its Effect on Marketplace Incentives, presented at 84th Annual Meeting and Exhibition, Air and Waste Management Association, Vancouver, British Columbia, June 1991 (with D. W. South).

Regulatory Incentives: A Means to Accelerate Clean Coal Technology Adoption for Acid Rain Compliance, presented at Compliance and Emissions Trading Strategies: Facing Acid Rain Tradeoffs, Center for Regulatory Studies, Chicago, IL, June 1991 (with D. W. South).

Implementing Emissions Trading: Regulatory and Compliance Planning Issues, presented at the Workshop on Implementing the Electric Utility Provisions of the Clean Air Act Amendments of 1990: Midwestern State Public Utility Commission Issues, National Regulatory Research Institute, Chicago, IL, May 1991 (with D. W. South).

Clean Coal Technology and Acid Rain Compliance: An Examination of Alternative Incentive Proposals, presented at the American Power Conference, Chicago, IL, April 1991 (with D. W. South).

Emissions Trading: Implications for Regulatory Policy, presented at the 20th Annual Meeting of the Illinois Economic Association, Chicago, IL, October 1990 (with D. W. South).

The Future of Clean Coal Technology: An Evaluation of the Proposed CCT Incentives in S. 1630, presented at the 20th Annual Meeting of the Illinois Economic Association, Chicago, IL, October 1990 (with D. W. South).

The Future of Clean Coal Technology: An Evaluation of the Proposed Incentives in S. 1630, presented at the Seventh Annual International Pittsburgh Coal Conference, Pittsburgh, PA, September 1990 (with D. W. South).

The Future of Clean Coal Technology: An Evaluation of the Proposed Incentives in S. 1630, presented at the Seventh NARUC Biennial Regulatory Information Conference, Columbus, OH, September 1990 (with D. W. South).

Emissions Trading: Implications for Regulatory Policy, presented at the Seventh NARUC Biennial Regulatory Information Conference, Columbus, OH, September 1990 (with D. W. South).

Alternatives to Rate of Return Regulation in the Telephone Industry: A Survey of the New Incentive Mechanism Proposals. Illinois Economic Association, October 1988.

Market Structures in the Local Communication Market: Fact and Fiction, presented at the Intra-MSA Telecommunication Conference, September 1988.

The Quantity Theory of Money of J. M. Keynes: From the Tract to the General Theory. Proceedings of the 14th Annual Meeting of the History of Economics Society, June 1987 (with C. Marme).

Competitive Pricing and the Local Telephone Service Market: Some Problems of Balancing Equity and Efficiency. Illinois Economic Association, October 1986.

The Impact of Self-Selective Tariffs in Telecommunications Markets: The Design of an Experiment. Proceedings of the Fifth NARUC Biennial Regulatory Conference, September 1986 (with M. J. Morey and K. Costello).

An Incentive Plan to Control Power Plant Construction Costs. Third NARUC Biennial Information Conference, September 1982.

The Measurement of Efficiency and the Application of Incentives to Regulated Industries. Proceedings of the Second NARUC Biennial Regulatory Information Conference, September 1980 (with K. Costello).

Reports

Summary of Finding and User Guide: Tariff Model for the Macedonian Electric Sector, prepared for the Ministry of Economy, Republic of Macedonia, under contract with United States Agency for International Development, November 2003 (with Carl Peterson and Ralph Zarumba; report is currently being reviewed and is proprietary).

Distributed Resource Investment in Albania: Regulatory Options for Introducing Commercial Incentives and Promoting Solutions to Meeting Electricity Demand, white paper prepared for the law firm of Pierce Atwood under contract with United States Agency for International Development, January 2003 (with Carl Peterson).

Restructuring Options for the Electric Sector in Macedonia, Report 1 and 2; prepared for the law firm of Pierce Atwood under contract with United States Agency for International Development, 2002 (with Carl Peterson and Ralph Zarumba; report is proprietary).

Introducing Competition into the Albanian Electric Sector, white paper prepared for the law firm of Pierce Atwood under contract with United States Agency for International Development, 2001 (with Carl Peterson).

Examination of Incentive Mechanisms for Innovative Technologies Applicable to Utility and Nonutility Power Generators, Environmental Assessment and Information Sciences Division, Argonne National Laboratory, publication ANL/EAIS/TM-2, August 1993.

Avoided Cost Pricing: Theoretical Issues and Problems in Estimation. Prepared for the Illinois Department of Energy and Natural Resources, June 1990.

Least-Cost Planning in the Natural Gas Industry: An Overview of the Issues. Prepared for the Illinois Department of Energy and Natural Resources, December 1989.

Equity Issues in a Least-Cost Planning Environment. Prepared for the Illinois Department of Energy and Natural Resources, October 1989.

An Analysis of Prudency Evaluation Within a Least-Cost Planning Framework: The Case of Natural Gas Planning. Prepared for the Illinois Department of Energy and Natural Resources, October 1989.

Consumer Choice Under Risk and Uncertainty: The Role of Risk Perceptions as a Causal Factor in Consumer Decisionmaking. Prepared for the Energy and Environmental Systems Division, Argonne National Laboratory for U.S. DOE Office of Civilian Radioactive Waste Management, April 1989.

The Effects of Alternative Definitions of the Obligation to Serve on the Least-Cost Plans of Local Gas Distribution Companies. A Report for the Northern Illinois Alliance to Support Least-Cost Utility Planning, February 1989.

A Complete and Economic Study on Proposed IPCB Regulation R89-9: Waste Prohibitions. Prepared for the Illinois Department of Energy and Natural Resources (with J. L. Carlson, M. J. Morey, R. C. Hemphill, and W. Mikucki).

The Role of Prices and the Pricing System Within the Regulatory Process. Prepared for the Illinois Department of Energy and Natural Resources, October 1986.

An Evaluation of the Minimization of Total Regional Requirements as an Objective in State-Wide Utility Planning Process. For the Illinois Department of Energy and Natural Resources, November 1986.

The Economic Incentives Provided by Section 9-215, Excess Capacity Rule of Proposed Illinois Public Utility Act. A Memorandum to the Joint Committee, June 1985.

An Analysis of the Issue of Cross-Subsidization in the Local Telephone Market. Prepared for the Joint Committee on Public Utility Regulation, May 1985.

A Survey of State Regulatory Actions and Legislative Developments Resulting from the Divestiture of AT&T. Prepared for the Joint Committee on Public Utility Regulations, Illinois State Legislature, March 1985.

A Memorandum to the Telecommunications Policy Working Group on the Concepts of Competing, Competition and Market Structure, September 1984.

The Evolution of Competition in the Telephone Industry and the Critical Issues Facing the Illinois Legislature on the Deregulation of Telephone Service. Prepared for the Select Joint Subcommittee on Regulatory Reform, July 1984.

The Review of Existing Power Plant Certificates, Monitoring of Power Plant Costs and the Allocation of Power Plant Cancellation Costs. Presented to the Sunset Task Force on Utility Regulatory Reform, January 1984.

Utility Efficiency Report Subtask IX - Final Report in Incentive Mechanisms. Prepared for the Illinois Commerce Commission, May 1981.

Utility Efficiency Report Subtask IV - Evaluation and Choice of Incentive Mechanisms. Illinois Commerce Commission for the U.S. Department of Energy, July 1980.

Utility Efficiency Report Subtask II - Review of Existing Incentive Mechanisms. Illinois Commerce Commission for the U.S. Department of Energy, March 1980.

Estimating Fuel Prices, a Memorandum to the Virginia State Corporation Commission with K. Kelly, National Regulatory Research Institute, 1979.

Summary of Regulatory Commission Activities on Power Plant Productivity. The National Regulatory Research Institute draft report for the U.S. Department of Energy, 1979.

Unpublished Papers

Electric Industry Evolution in Eastern Europe After 1990, Working Paper, NERA Economic Consulting, Chicago, IL, November 2002 (with C. Peterson).

Designing the New Regulatory Contract: Using the Market Process to Design Regulatory Mechanisms, Draft Paper, NERA Economic Consulting, Chicago, IL, November 2000.

Decentralization vs. Coordination: An Examination of the Options for Deregulating the Electric Supply Industry, June 1985.

Applied Fairness Theory: The Case of Allocating Canceled Power Plant Costs, October 1983.

Towards Developing a Framework for Evaluating Incentive Mechanisms, Performance Measures and Institutional Choice in Deregulation, August 1981.

An Overview of the Theories of Regulation and Pricing Policies for Regulated Industries. The National Regulatory Institute, 1979.

A Critique of the Averch-Johnson Bias and a Test of Some Alternative Hypotheses. Master Thesis submitted to the Graduate School of the University of Wyoming, July 1978.

Presentations

Performance-Based Regulation and the Stand-Alone Distribution System, Distribution System Planning, Maintenance and Reliability Conference, Denver, November 2000.

The Moral Obligation to Regulate Intelligently. Presented to the NARUC Telecommunications Staff Sub-Committee at the 112th Annual NARUC Convention, San Diego, November 2000.

Concepts of Utility Regulation for Developing Countries, 42nd Annual Regulatory Studies Program, Institute for Public Utilities, Michigan State University, August 2000.

The Essential Role of Earnings Sharing in the Design of Successful Performance-Based Regulation, Presented at EPRI's International Energy Pricing Conference, Washington, D.C. July 2000.

Transmission Pricing: Distance-sensitive, but not Pancaked. Presented at the EEI Transmission Pricing Conference, Washington, D.C., July 2000.

Telecommunications Rate Rebalancing. Presented to the NARUC Telecommunications Staff Sub-Committee at the NARUC Convention, Los Angeles, July 2000.

Coal, Energy and Clean Air: Challenges and Opportunities, facilitator, Illinois Department of Economic Development and Community Affairs and the Illinois Environmental Agency, Decatur, Illinois, July 2000.

PBR Strategy Seminar, Illinois Power Company, April 2000.

Strategic Application of Distributed Resources, Illinois Power Company, April 2000.

PBR Strategy Seminar, with Jeff Makholm, Georgia Power Company, April 2000.

Codes of Conduct for The Electric Industry, presented on behalf of the Edison Electric Institute at the Commissioner Liaison Committee meeting, NARUC Winter Meeting, Washington, D.C., March 2000.

Mergers and Acquisitions: Assessing the Trends in the Electric and Gas Industries, Presentation to the Midwest Energy Bar Association, Kansas City, March 2000.

Telecommunications Industry in the Aftermath of TA96: Creating a Consistent Regulatory Framework amidst the Complexities of the Contemporary Marketplace, Presented to the NARUC Telecommunications Staff Sub-Committee at the NARUC Annual Convention, San Antonio, November 1999.

Cost Allocation for Affiliate Transactions, presented on behalf of the Edison Electric Institute at the Joint Meeting of the Finance and Technology, Gas and Electric Committees, NARUC Summer Meeting, San Francisco, July 1999.

Avoided Cost Calculation Methodologies, presentation to Energy Sector Representatives of Romania and Bulgaria, Bucharest, Romania, Fall 1999.

RTO and ISOs: Restructuring Options, presentation to Energy Sector Representatives of Romania and Bulgaria, Sinaia, Romania, Summer 1999.

Convergence: The Utility of the Future, Presented to Wisconsin Electric Company and Wisconsin Gas merger transition team, 1999.

A Conflict of Paradigms: The Future Role of State Regulation of the Natural Gas Industry. Presented to the Midwest Gas Association, November 6, 1991.

Exit and Entry: Who Will Bear the Risk in a Competitive Natural Gas Industry. Presented at the conference "At the Crossroads: Restructuring the Natural Gas Industry," held by the Center for Regulatory Studies, October 1991.

"To Serve Man" - The Golden Rule or a Visit to the Twilight Zone: How to Reconcile the Obligation to Serve with Competitive Market Forces. Presented to the Gas Policy Committee of the Illinois Commerce Commission, April 16, 1991.

Regulatory Treatment of Emissions Trading Decisions and Their Effect on Marketplace Incentives with D. W. South Presented at the Notice of Inquiry Public Hearing, Illinois Commerce Commission, March 1991.

The National Energy Strategy: Impacts on the Farm Sector. Presented to the Illinois Farm Bureau Leadership Conference, February 1991.

Emissions Trading in the CAAA of 1990: Regulatory, Compliance Planning and Implementation Issues with D. W. South. Presented to the Illinois Commerce Commission, January 1991.

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While at the Illinois Commerce Commission, Dr. McDermott gave over one-hundred presentations on a variety of topics in the telecommunications, electricity and natural gas industries.

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Summary of State Public Utility Commission Policies on Single-Tariff Pricing for Water Utilities (as of 1999)

Commission Policy	State Commissions	
Generally Accepted (8)	Connecticut	Pennsylvania
	Missouri	South Carolina
	North Carolina	Texas
	Oregon	Washington
Case-by-Case (17)	Single-Tariff Pricing Has Been Approved (14)	
	Arizona	New Hampshire
	Delaware	New York
	Florida	New Jersey
	Idaho (not an issue)	Ohio
	Illinois	Vermont
	Indiana	Virginia
	Massachusetts	West Virginia
	Single-Tariff Pricing Has Not Been Approved (3)	
	California	
	Maryland (not an issue)	
	Mississippi (not an issue)	
Never Considered (5)	Iowa	Maine
	Kentucky	Wisconsin
	Louisiana	
Not Applicable -- No Multi-System Water Utilities (15)	Alabama	Nevada
	Alaska	New Mexico
	Arkansas	Oklahoma
	Colorado	Rhode Island
	Hawaii	Tennessee
	Kansas	Utah
	Montana	Wyoming
	Nebraska	
No Jurisdiction for Water Utilities (6)	Georgia	North Dakota
	Michigan	South Dakota
	Minnesota	Washington, D.C.

Summary of State Public Utility Commission Policies on Single-Tariff Pricing for Water Utilities (as of 2015)

Commission Policy	State Commissions	
Generally Accepted (10)	Connecticut	New Hampshire
	Illinois	Oregon
	Iowa	Pennsylvania
	Maine	South Carolina
	Massachusetts	Washington
Case-by-Case (21)	Single-Tariff Pricing Has Been Approved (19)	
	Arizona	New York
	California	New Jersey
	Delaware	North Carolina
	Florida	Ohio
	Idaho	Rhode Island
	Indiana	Texas
	Kentucky	Vermont
	Louisiana	Virginia
	Missouri	West Virginia
	Montana	
	Single-Tariff Pricing Has Not Been Approved (2)	
	Maryland (not an issue)	
	Mississippi (not an issue)	
Never Considered (1)	Wisconsin	
Not Applicable -- No Multi-System Water Utilities (13)	Alabama	Nevada
	Alaska	New Mexico
	Arkansas	Oklahoma
	Colorado	Tennessee
	Hawaii	Utah
	Kansas	Wyoming
	Nebraska	
No Jurisdiction for Water Utilities (6)	Georgia	North Dakota
	Michigan	South Dakota
	Minnesota	Washington, D.C.

Source: Author's Research