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**BEFORE THE  
PUBLIC UTILITIES COMMISSION OF OHIO**

IN THE MATTER OF THE APPLICATION )  
OF DUKE ENERGY OHIO FOR AN INCREASE ) Case No. 08-709-EL-AIR  
IN ELECTRIC DISTRIBUTION RATES )  
  
IN THE MATTER OF THE APPLICATION )  
OF DUKE ENERGY OHIO FOR TARIFF ) Case No. 08-710-EL-ATA  
APPROVAL )  
  
IN THE MATTER OF THE APPLICATION )  
OF DUKE ENERGY OHIO FOR APPROVAL ) Case No. 08-711-EL-AAM  
TO CHANGE ACCOUNTING METHODS )

**DIRECT TESTIMONY OF KEVIN C. HIGGINS**

**On Behalf of The Kroger Co.,**

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1                                   **DIRECT TESTIMONY OF KEVIN C. HIGGINS**

2

3    **Introduction**

4    **Q.     Please state your name and business address.**

5    A.           Kevin C. Higgins, 215 South State Street, Suite 200, Salt Lake City, Utah,  
6               84111.

7    **Q.     By whom are you employed and in what capacity?**

8    A.           I am a Principal in the firm of Energy Strategies, LLC. Energy Strategies  
9               is a private consulting firm specializing in economic and policy analysis  
10              applicable to energy production, transportation, and consumption.

11   **Q.     On whose behalf are you testifying in this proceeding?**

12   A.           My testimony is being sponsored by The Kroger Co. The Kroger Co. is  
13              one of the largest grocers in the United States. The Kroger Co. has over 65  
14              facilities served by Duke Energy Ohio that collectively consume over 255 million  
15              kWh per year. The Kroger Co. takes most of its service under the DS, DP, and  
16              TS rate schedules.

17   **Q.     Please describe your professional experience and qualifications.**

18   A.           My academic background is in economics, and I have completed all  
19              coursework and field examinations toward a Ph.D. in Economics at the University  
20              of Utah. In addition, I have served on the adjunct faculties of both the University  
21              of Utah and Westminster College, where I taught undergraduate and graduate  
22              courses in economics from 1981 to 1995. I joined Energy Strategies in 1995,  
23              where I assist private and public sector clients in the areas of energy-related

1 economic and policy analysis, including evaluation of electric and gas utility rate  
2 matters.

3 Prior to joining Energy Strategies, I held policy positions in state and local  
4 government. From 1983 to 1990, I was economist, then assistant director, for the  
5 Utah Energy Office, where I helped develop and implement state energy policy.  
6 From 1991 to 1994, I was chief of staff to the chairman of the Salt Lake County  
7 Commission, where I was responsible for development and implementation of a  
8 broad spectrum of public policy at the local government level.

9 **Q. Have you ever testified before this Commission?**

10 A. Yes. In 2008, I testified in AEP's Electric Security Plan ("ESP")  
11 proceeding, Case No. 08-917-EL-SSO, et al; FirstEnergy's Market Rate Offer  
12 proceeding, Case No. 08-936-EL-SSO; FirstEnergy's ESP proceeding, Case No.  
13 08-935-EL-SSO; and the FirstEnergy distribution rate case proceeding, Case No.  
14 07-551-EL-AIR, et al.

15 In 2005, I testified in the AEP IGCC cost recovery proceeding, Case No.  
16 05-376-EL-UNC, and in 2004, I testified in the FirstEnergy Rate Stabilization  
17 Plan proceeding, Case No. 03-2144-EL-ATA.

18 **Q. Have you testified before utility regulatory commissions in other states?**

19 A. Yes. I have testified in over one hundred proceedings on the subjects of  
20 utility rates and regulatory policy before state utility regulators in Alaska,  
21 Arizona, Arkansas, Colorado, Georgia, Idaho, Illinois, Indiana, Kansas,  
22 Kentucky, Michigan, Minnesota, Missouri, Montana, Nevada, New Mexico, New

1 York, Oklahoma, Oregon, Pennsylvania, South Carolina, Texas, Utah, Virginia,  
2 Washington, West Virginia, and Wyoming.

3 A more detailed description of my qualifications is contained in  
4 Attachment A, attached to this testimony.

5 **Overview and Conclusions**

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

7 A. My testimony addresses: (1) Duke Energy Ohio's cost-of-service study;  
8 (2) the distribution of any proposed rate increase, or "rate spread"; and (3) rate  
9 design for the DS rate schedule. As part of this testimony, I offer  
10 recommendations to the Commission in support of a just and reasonable outcome  
11 in this proceeding.

12 **Q. What are your primary conclusions and recommendations?**

13 A. I offer the following conclusions and recommendations:

14 (1) Duke Energy Ohio's cost of service methodology allocates the cost of  
15 certain distribution facilities such as poles and conductors exclusively on the basis  
16 of class demand, without considering that the cost of poles and conductors also  
17 has a significant customer-related component. The Company's treatment of these  
18 costs is inconsistent with the guidelines published in the Electric Utility Cost  
19 Allocation Manual published by NARUC, which states that a portion of pole and  
20 conductor costs should be classified as customer-related. As a result of Duke  
21 Energy Ohio's failure to classify a portion of these costs as customer-related, the  
22 Company's analysis under-assigns cost responsibility based on number of  
23 customers served and over-assigns cost responsibility on the basis of demand,

1 shifting costs unreasonably to the larger customers served on the distribution  
2 system.

3 (2) One of the consequences of this shortcoming in the Company's cost-  
4 of-service analysis is that it over-allocates costs to Secondary Large (DS) and  
5 Primary Distribution (DP) rate schedules. Based on these skewed results, Duke  
6 Energy Ohio proposes to double the distribution rates paid by the DP class. If  
7 adopted, Duke Energy Ohio's distribution demand charge for primary service  
8 would be more than three times the rate charged by Toledo Edison and Dayton  
9 Power and Light, and more than double the rate charged by Ohio Edison and  
10 Columbus Southern. To further underscore the anomalous results of the  
11 Company's analysis, Duke Energy Ohio's proposed demand charge for primary  
12 service is even greater than the demand charge the Company is proposing for  
13 secondary service (DS).

14 (3) Because of these problems with its cost-of-service analysis, Duke  
15 Energy Ohio's recommendation to move all customer classes to rates based on the  
16 "costs" should be rejected. Instead, any rate increase should be spread across all  
17 customer classes (except TS) on an equal percentage basis with respect to current  
18 distribution rates. At Duke Energy Ohio's proposed revenue increase, an equal  
19 percentage approach translates into a 28.0 percent increase in distribution rates for  
20 all customer classes with the exception of TS, which would receive the 89.9  
21 percent reduction proposed by the Company. For the range of revenue increases  
22 recommended by Staff, an equal percentage approach would produce an increase

1 in distribution charges ranging from 17.8 percent to 20.4 percent for all customer  
2 classes except TS.

3 (4) The Company should be directed that in its next distribution rate case  
4 filing, its cost-of-service study should classify a portion of costs in FERC  
5 Accounts 364-367 as customer-related, using a methodology consistent with the  
6 guidelines provided in the NARUC Electric Utility Cost Allocation Manual.

7 (5) Staff's proposal to employ the principal of gradualism to mitigate the  
8 extreme rate increases being proposed by the Company for certain rate classes is  
9 inherently reasonable. However, Staff's proposal is based on the premise that  
10 Duke Energy Ohio's cost-of-service study has produced reasonable results.  
11 Given the flaws in the Company's cost-of-service study, Staff's rate spread  
12 proposal should not be adopted, and the equal percentage approach (for the non-  
13 TS classes) that I am recommending should be adopted instead. However, in the  
14 alternative, should the Company's cost-of-service study not be rejected by the  
15 Commission, then the rate spread proposed by Staff should be approved.

16 (6) The customer charges recommended by both the Company and Staff  
17 for the DS rate schedule are below the customer-related costs for providing  
18 service to this class. The under-recovery of costs in the customer charge is made  
19 up through a higher demand charge, resulting in an intra-class subsidy from the  
20 larger customers in the class to the smaller. To reduce this subsidy, I recommend  
21 that the DS customer charge be set at \$25.00 per month for single phase service  
22 and \$50.00 per month for three phase service. These charges will better align the  
23 customer charge with cost-of-service and produce an offsetting reduction of

1 approximately \$0.11/kW in the distribution demand charge relative to the  
2 Company's proposed demand charge and approximately \$0.29/kW relative to  
3 Staff's proposed distribution demand charge.

4 **Q. Have you reviewed Staff's Report of Investigation ("Staff Report") dated**  
5 **January 27, 2009 issued in this proceeding?**

6 **A.** Yes, I have.

7 **Q. Do you have any comments on the Staff Report?**

8 **A.** Yes. I am generally supportive of the conclusions in the Staff Report.

9 However, as I discuss in this testimony, I disagree with:

10 (1) Staff's acceptance of Duke Energy Ohio's claim that the Company  
11 based the allocations in its cost-of-service study on the cost causation guidelines  
12 established in the NARUC Electric Utility Cost Allocation Manual;

13 (2) Staff's proposed rate spread, which although it applies the principles of  
14 gradualism, is still based on the results of the Company's flawed cost-of-service  
15 study; and

16 (3) Staff's proposed customer charge for the DS rate schedule, which is  
17 below customer-related cost of service, and results in a greater than warranted DS  
18 demand charge.

**Cost-of-Service / Rate Spread**

**Q. How is Duke Energy Ohio proposing to spread its proposed rate increase?**

A. The Company is proposing to spread its proposed rate increase of \$85.6 million in the manner shown in Table KCH-1, below. The Company's proposed rate increase is based on the results of its cost-of-service study.

**Table KCH-1**

**Duke Energy Ohio Proposed Rate Spread**

<u>Rate Schedule</u>	<u>Proposed Increase</u>	
	<u>\$</u>	<u>%</u>
RS - Residential	35,993,976	19.6
DS - Secondary Dist. Large	35,366,673	42.9
EH - Sec. Large (Elec. Heat)	550,871	51.8
DM - Sec. Dist. Small	(2,004,718)	-11.0
GSFL - Sec. Dist. Small	125,758	27.2
DP - Primary Dist.	16,472,401	100.3
TS - Transmission	(1,066,921)	-89.9
Lighting	166,411	2.3
Total Distribution	85,604,451	27.5

As shown in Table KCH-1, Duke Energy Ohio is proposing dramatically greater increases for the Secondary Large (DS, EH) and Primary Distribution (DP) rate schedules relative to the overall proposed increase of 27.5 percent. For DS, the proposed increase is 42.9 percent and DP rates would actually double. If adopted, the Company's proposal would give Duke Energy Ohio the highest primary distribution rates of any investor-owned utility in Ohio. Comparable rates for other Ohio utilities are listed in Table KCH-2, below.



Table KCH-2

Comparison of Distribution Charges for Primary Service

<u>Utility / Rate</u>	<u>Customer Charge</u> <u>(\$/mo.)</u>	<u>Demand Charge</u> <u>(\$/kW-mo.)</u>
Toledo Edison – GP	\$150.00	\$1.7328
Dayton P&L – Primary	\$95.00	\$1.84047
Ohio Edison – GP	\$150.00	\$2.2550
Columbus So. – GS-3	\$278.90	\$2.6260
Duke Ohio – DP (Current)	\$150.00	\$2.9370
Ohio Power – GS-3	\$100.00	\$3.4700
CEI – LGS	\$238.13	\$3.575 - \$4.602
<b>Duke Ohio - DP (Proposed)</b>	<b>\$200.00</b>	<b>\$5.6495</b>

As shown in Table KCH-2, the Company's proposed distribution demand charge for primary service (DP) is more than three times the rate charged by Toledo Edison and Dayton Power and Light, and more than double the rate charged by Ohio Edison and Columbus Southern. Duke Energy Ohio's proposed demand charge for primary service is even greater than the demand charge the Company is proposing for secondary service (DS) – even though primary customers do not even use the secondary distribution system, as they provide their own transformers and service lines.

**Q. What inferences do you draw from this information?**

A. Based on this information, it appears that Duke Energy Ohio is either doing an extremely poor job of providing distribution service to primary voltage customers in a cost-effective manner relative to other Ohio utilities, or there is something wrong with the Company's class cost-of-service analysis that is causing an over-allocation of costs to primary service.

**Q. Have you reviewed the methodology employed by Duke Energy Ohio to analyze distribution cost of service?**

1 A. Yes, I have. The methodology used by the Company to evaluate  
2 distribution cost of service is described by Duke Energy Ohio witness Donald L.  
3 Storck. The Company's cost-of-service analysis is presented generally in Duke  
4 Energy Ohio Schedule E-3.2.

5 **Q. Do you have any comments on the Company's approach?**

6 A. Yes. Duke Energy Ohio's cost of service methodology allocates the cost  
7 of certain distribution facilities such as poles and conductors exclusively on the  
8 basis of class demand, without considering that the cost of poles and conductors  
9 also has a significant customer-related component.<sup>1</sup> These facilities are installed  
10 to deliver service to customer premises. As such, a significant portion of the  
11 investment required to provide these facilities is directly related to the number of  
12 customers and their geographic dispersion on the utility's system. A well-  
13 designed and fair distribution cost-of-service study should take these aspects of  
14 cost causation into account. In contrast, the Company's approach ignores the role  
15 of the number of customers and their geographic dispersion in influencing system  
16 investment requirements. As a result, the Company's analysis under-assigns cost  
17 responsibility based on number of customers served and over-assigns cost  
18 responsibility on the basis of demand, shifting costs unreasonably to the larger  
19 customers served on the distribution system.

20 **Q. What FERC accounts are affected by the Companies' failure to classify pole**  
21 **and conductor costs as customer-related?**

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<sup>1</sup> Direct testimony of Donald L. Storck, p. 7, lines 1-6.

1     A.             The affected accounts are Account 364 – Poles, Towers, and Fixtures;<sup>2</sup>  
2             Account 365 – Overhead Conductors and Devices; and Accounts 366 and 367 –  
3             Underground Circuits, Conductors, and Devices;

4     **Q.     Is the position you are advancing with respect to the classification of a**  
5             **portion of pole and conductor costs as customer-related consistent with the**  
6             **recommended treatment of these costs as presented in the Electric Utility**  
7             **Cost Allocation Manual published by NARUC?**

8             Yes. The NARUC cost allocation manual is very clear on this subject.  
9             Regarding the allocation of distribution costs, the manual states: “The customer  
10            component of distribution facilities is that portion of costs which varies with the  
11            number of customers. Thus the number of **poles, conductors**, transformers,  
12            services, and meters are directly related to the number of customers on the  
13            utility’s system.”<sup>3</sup> [Emphasis added.] The NARUC Manual goes on to describe  
14            methodologies for incorporating the influence of customer-related costs in the  
15            allocation of costs for these accounts.

16    **Q.     What are the consequences of allocating costs for poles and conductors**  
17            **exclusively on the basis of class demand?**

18            Ignoring the customer-related cost component for poles and conductors,  
19            and allocating these costs solely on the basis of demand, distorts cost  
20            responsibility among customers using the distribution system. Consider, for  
21            example, that Duke Energy Ohio serves nearly 700,000 customers. To serve this  
22            many customers, the Company has had to install poles and distribution lines

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<sup>2</sup> Duke Energy Ohio includes Account 3601 (rights of way) with its Account 364 plant in its cost-of-service study, so for purposes of this discussion I will include Account 3601 with Account 364.

1 throughout its service territory sufficient to deliver service to each customer  
2 premise. Of these nearly 700,000 customers, only 298 take service under the DP  
3 rate schedule.<sup>4</sup> These 298 customers comprise less than 5/100 of 1 percent of the  
4 customers on the distribution system – yet the Company’s cost-of-service study  
5 assigns these customers 11.8 percent of the plant costs of the distribution system  
6 poles, towers, fixtures, and conductors.<sup>5</sup> In my opinion, this is an egregious  
7 inequity. It is fundamentally unreasonable on its face to maintain that 298  
8 customers are somehow responsible for causing nearly 12 percent of the costs of  
9 the poles and wires to deliver power over a system that was constructed to reach  
10 nearly 700,000 customers. This gross over-allocation occurs because Duke  
11 Energy Ohio allocates the costs of all of the poles and conductors on the basis of  
12 class group peak demand, ignoring the customer-related cost component of these  
13 facilities.

14 **Q. What methodologies are typically used for determining the customer-related**  
15 **portion of poles and conductor costs?**

16 A. The most commonly-used methods are the minimum system method and  
17 the zero-intercept method. Both methods are described in the NARUC Manual  
18 referenced above. In fact, Duke Energy Ohio allocates line transformer costs  
19 (FERC Account 368) using the minimum size method.<sup>6</sup> According to the study  
20 conducted by Mr. Storck, approximately 28 percent of transformer costs are

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<sup>3</sup> NARUC Electric Utility Cost Allocation Manual, 1992, p. 90.

<sup>4</sup> Source: Duke Energy Ohio Schedule E 3.2, p. 23.

<sup>5</sup> Source: Duke Energy Ohio Schedule E 3.2, p. 1.

<sup>6</sup> Ibid., p. 8, lines 1-22.

1 customer-related. The Company, however, ignores the NARUC Manual  
2 guidelines for classifying poles and conductors.

3 **Q. After determining the customer-related portion of poles, conductors, and**  
4 **transformer costs, how should the balance of these costs be classified?**

5 A. The balance of these costs should be classified as demand-related.

6 **Q. Have you conducted any sensitivity analysis to gauge the impact of failing to**  
7 **classify any pole and conductor costs as customer-related?**

8 A. Yes. I tested the sensitivity of the Company's cost-of-service study results  
9 to changes in the classification of Account 364-367 costs. Specifically, I  
10 estimated the cost-of-service results that would obtain under three scenarios: (1)  
11 with Account 364-367 costs classified as 28 percent customer-related; (2) with  
12 Account 364-367 costs classified as 60 percent customer-related; and (3) with  
13 Account 364-367 costs classified as 80 percent customer-related. These results  
14 are presented in Attachment KCH-1. The sensitivity analysis indicates that the  
15 cost-of-service results for the DS and DP rate schedules are strongly affected by  
16 the Company's failure to classify any pole or conductor costs as customer-related.  
17 For example, over this range, the rate increase needed for DS to move to cost-of-  
18 service falls well below the system average increase, and the corresponding  
19 increase for DP approaches the system average increase.

20 **Q. Why did you select 28 percent, 60 percent, and 80 percent as measures of**  
21 **customer-related costs in your sensitivity analysis?**

22 A. In my experience with studies performed in other jurisdictions, the  
23 customer-related portion of poles and wires costs has been in the range of 30 to 80

1       percent. I selected 28 percent to test the sensitivity of the Company's cost-of-  
2       service study because this proportion is the customer-related classification derived  
3       by Mr. Storck for transformers. In my opinion, this level represents an absolute  
4       minimum share of customer-related costs for Accounts 364-367. I tested the  
5       sensitivity at 60 percent, because I believe this level represents a more realistic,  
6       mid-range measure of customer-related costs for these accounts. I also tested the  
7       sensitivity at 80 percent to gauge the upper-end of the range.

8       **Q.     What recommendations do you make to the Commission based on your**  
9       **review of the Company's cost of service study?**

10      A.       Because Duke Energy Ohio's study fails to take into consideration any  
11      customer-related costs for certain major distribution accounts, the Company's  
12      study results should not be relied upon for spreading any rate increase approved in  
13      this proceeding. Specifically, the Company's recommendation to move all  
14      customer classes to rates based on the "costs" derived in its analysis should be  
15      rejected. The cost results derived by the Company for all customer classes except  
16      TS <sup>7</sup> are significantly distorted by the shortcomings in the Company's analysis,  
17      which fails to adhere to the guidelines for cost classification in the NARUC  
18      Manual.

19              In this situation, the only reasonable approach is to reject the Company's  
20      class cost of service study. In this circumstance, any rate increase should instead  
21      be spread across all customer classes (except TS) on an equal percentage basis

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<sup>7</sup> The Company's failure to classify certain distribution facilities as "customer related" has no impact on the cost results for the TS class, as this class does not use the facilities in question. Therefore, I have no objection to the 89.9 percent rate reduction proposed by the Company for TS.

1 with respect to current distribution rates. At the 27.5 percent distribution revenue  
2 increase being proposed by the Company, this equal-percentage approach would  
3 result in a 28.0 percent increase for the non-TS customer classes. At the 17.3 to  
4 20.0 percent distribution revenue increase being proposed by Staff, this approach  
5 would result in a 17.8 percent to 20.4 percent increase for the non-TS customer  
6 classes. These calculations are shown in Attachment KCH-2.

7 Further, the Company should be directed that in its next distribution rate  
8 case filing, its cost-of-service study should classify a portion of costs in Accounts  
9 364-367 as customer-related, using a methodology consistent with the guidelines  
10 provided in the NARUC Manual.

11 **Q. What is your recommended revenue treatment for the TS rate schedule?**

12 A. Customers taking TS service do not utilize the primary or secondary  
13 distribution systems. Consequently, the failure of the Company to properly  
14 classify a portion of poles and conductor costs as customer-related does not affect  
15 the cost-of-service results for the TS rate schedule. Therefore, I have no objection  
16 to the Company's proposed rate treatment for TS.

17 **Q. What is your assessment of Staff's rate spread proposal?**

18 A. Staff's proposal to employ the principal of gradualism to mitigate the  
19 extreme rate increases being proposed by the Company for certain rate classes is  
20 inherently reasonable. However, Staff's proposal is based on the incorrect  
21 premise that Duke Energy Ohio's cost-of-service study adheres to the cost  
22 causation guidelines established in the NARUC Electric Utility Cost Allocation  
23 Manual. Given that the Company's cost-of-service study fails to adhere to these

1 guidelines, Staff's rate spread proposal should not be adopted. Rather, the equal  
2 percentage approach (for the non-TS classes) that I am recommending should be  
3 adopted instead.

4 However, in the alternative, should the Company's cost-of-service study  
5 not be rejected by the Commission, then the rate spread proposed by Staff should  
6 be approved.

7 **DS Rate Design**

8 **Q. Do you have any suggested changes with respect to either the Company's or**  
9 **Staff's proposed rate design for any rate schedules?**

10 A. Yes. Duke Energy Ohio is proposing to set the customer charge for the  
11 DS rate schedule at \$20.00 per month for single phase service and \$40.00 per  
12 month for three phase service, whereas Staff is proposing customer charges of  
13 \$12.00 and \$24.00, respectively. Even though both proposals represent  
14 significant increases above the current customer charges (of \$7.00 and \$12.00),  
15 the resulting charges under either recommendation are still below the customer-  
16 related costs for providing service to the DS class. According to Duke Energy  
17 Ohio Schedule E-3.1, page 4, customer-related costs for DS service are \$46.88 per  
18 month; this translates into a cost of \$26.33 per month for DS single phase service  
19 and \$52.66 per month for three phase service. The under-recovery of costs in the  
20 customer charge is made up through a higher demand charge, resulting in an intra-  
21 class subsidy from the larger customers in the class to the smaller. Further, as I  
22 discussed above, the Company's cost-of-service methodology understates  
23 customer-related costs; thus, the under-recovery of customer-related costs is even



1 larger than appears based on an examination of the Company's cost-of-service  
2 calculations.

3 In my opinion, the customer charge for the DS class should be brought  
4 closer to cost of service. I can appreciate the application of gradualism when  
5 changing any charge; however, the proposed customer charge is still modest for  
6 customers of this size range, and I believe it is inappropriate to inflate the  
7 distribution demand charge to keep the customer charge artificially low.

8 **Q. What is your recommendation to the Commission for setting the DS**  
9 **customer charge?**

10 A. I recommend that the DS customer charge be set at \$25.00 per month for  
11 single phase service and \$50.00 per month for three phase service. These charges  
12 will better align the customer charge with cost-of-service and produce an  
13 offsetting reduction of approximately \$0.11/kW in the distribution demand charge  
14 relative to the Company's proposed demand charge and approximately \$0.29/kW  
15 relative to Staff's proposed demand charge. These calculations are presented in  
16 Attachment KCH-3.

17 **Q. Does this conclude your direct testimony?**

18 A. Yes, it does.

19

20 ND: 4831-2342-8099, v. 1

**KEVIN C. HIGGINS**  
**Principal, Energy Strategies, L.L.C.**  
**215 South State St., Suite 200, Salt Lake City, UT 84111**

**Vitae**

**PROFESSIONAL EXPERIENCE**

Principal, Energy Strategies, L.L.C., Salt Lake City, Utah, January 2000 to present. Responsible for energy-related economic and policy analysis, regulatory intervention, and strategic negotiation on behalf of industrial, commercial, and public sector interests. Previously Senior Associate, February 1995 to December 1999.

Adjunct Instructor in Economics, Westminster College, Salt Lake City, Utah, September 1981 to May 1982; September 1987 to May 1995. Taught in the economics and M.B.A. programs. Awarded Adjunct Professor of the Year, Gore School of Business, 1990-91.

Chief of Staff to the Chairman, Salt Lake County Board of Commissioners, Salt Lake City, Utah, January 1991 to January 1995. Senior executive responsibility for all matters of county government, including formulation and execution of public policy, delivery of approximately 140 government services, budget adoption and fiscal management (over \$300 million), strategic planning, coordination with elected officials, and communication with consultants and media.

Assistant Director, Utah Energy Office, Utah Department of Natural Resources, Salt Lake City, Utah, August 1985 to January 1991. Directed the agency's resource development section, which provided energy policy analysis to the Governor, implemented state energy development policy, coordinated state energy data collection and dissemination, and managed energy technology demonstration programs. Position responsibilities included policy formulation and implementation, design and administration of energy technology demonstration programs, strategic management of the agency's interventions before the Utah Public Service Commission, budget preparation, and staff development. Supervised a staff of economists, engineers, and policy analysts, and served as lead economist on selected projects.

Utility Economist, Utah Energy Office, January 1985 to August 1985. Provided policy and economic analysis pertaining to energy conservation and resource development, with an emphasis on utility issues. Testified before the state Public Service Commission as an expert witness in cases related to the above.

Acting Assistant Director, Utah Energy Office, June 1984 to January 1985. Same responsibilities as Assistant Director identified above.

Research Economist, Utah Energy Office, October 1983 to June 1984. Provided economic analysis pertaining to renewable energy resource development and utility issues. Experience includes preparation of testimony, development of strategy, and appearance as an expert witness for the Energy Office before the Utah PSC.

Operations Research Assistant, Corporate Modeling and Operations Research Department, Utah Power and Light Company, Salt Lake City, Utah, May 1983 to September 1983. Primary area of responsibility: designing and conducting energy load forecasts.

Instructor in Economics, University of Utah, Salt Lake City, Utah, January 1982 to April 1983. Taught intermediate microeconomics, principles of macroeconomics, and economics as a social science.

Teacher, Vernon-Verona-Sherrill School District, Verona, New York, September 1976 to June 1978.

## **EDUCATION**

Ph.D. Candidate, Economics, University of Utah (coursework and field exams completed, 1981).

Fields of Specialization: Public Finance, Urban and Regional Economics, Economic Development, International Economics, History of Economic Doctrines.

Bachelor of Science, Education, State University of New York at Plattsburgh, 1976 (cum laude).

Danish International Studies Program, University of Copenhagen, 1975.

## **SCHOLARSHIPS AND FELLOWSHIPS**

University Research Fellow, University of Utah, Salt Lake City, Utah 1982 to 1983.

Research Fellow, Institute of Human Resources Management, University of Utah, 1980 to 1982.

Teaching Fellow, Economics Department, University of Utah, 1978 to 1980.

New York State Regents Scholar, 1972 to 1976.

## EXPERT TESTIMONY

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 08-035-38. Direct testimony submitted February 12, 2009 (revenue requirement).

"In The Matter of the Amended Application of Rocky Mountain Power for Approval of a General Rate Increase of Approximately \$28.8 Million per Year (6.1 Percent Overall Average Increase)", **Wyoming** Public Service Commission, Docket No. 20000-333-ER-08. Direct testimony submitted January 30, 2009.

"In the Matter of the Application of Dayton Power and Light Company for Approval of Its Electric Security Plan," Public Utilities Commission of **Ohio**, Case No. 08-1094-EL-SSO; "In the Matter of the Application of Dayton Power and Light Company for Approval of Revised Tariffs, Case No. 08-1095-EL-ATA; "In the Matter of the Application of Dayton Power and Light Company for Approval of Certain Accounting Authority Pursuant to Ohio Rev. Code §4905.13," Case No. 08-1096-EL-AAM; In the Matter of the Application of Dayton Power and Light Company for Approval of Its Amended Corporate Separation Plan, Case No. 08-1097-EL-UNC. Direct testimony submitted January 26, 2009. Deposed February 6, 2009. Testimony withdrawn pursuant to stipulation filed February 24, 2009.

"Application of Oncor Electric Delivery Company LLC for Authority to Change Rates," Public Utility Commission of **Texas**, SOAH Docket No. 473-08-3681, PUC Docket No. 35717. Direct testimony submitted November 26, 2008. Cross examined February 3, 2009.

"In the Matter of the Application of Columbus Southern Power Company for Approval of Its Electric Security Plan; An Amendment to Its Corporate Separation Plan; and the Sale of Certain Generating Assets", Public Utilities Commission of **Ohio**, Case No. 08-917-EL-SSO; "In the Matter of the Application of Ohio Power Company for Approval of Its Electric Security Plan; and an Amendment to Its Corporate Separation Plan," Case No. 08-918-EL-SSO. Direct testimony submitted October 31, 2008. Cross examined November 25, 2008.

"Application of Louisville Gas and Electric Company for an Adjustment of Its Electric and Gas Base Rates," **Kentucky** Public Service Commission, Case No. 2008-00252. Direct testimony submitted October 28, 2008.

"Application of Kentucky Utilities Company for an Adjustment of Base Rates," **Kentucky** Public Service Commission, Case No. 2008-00251. Direct testimony submitted October 28, 2008.

"In the Matter of the Application of Idaho Power Company for Authority to Increase its Rates and Charges for Electric Service," **Idaho** Public Utilities Commission, Case No. IPC-E-08-10. Direct testimony submitted October 24, 2008. Rebuttal testimony submitted December 3, 2008. Cross examined December 19, 2008.

"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 08-035-38. Direct testimony submitted October 7, 2008 (test period). Cross examined October 28, 2008 (test period).

"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form of an Electric Security Plan," Public Utility Commission of **Ohio**, Case No. 08-935-EL-SSO. Direct testimony submitted September 29, 2008. Deposed October 13, 2008. Cross examined October 21, 2008.

"In the Matter of the Application of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes In Their Charges for Electric Service," State Corporation Commission of **Kansas**, Docket No. 08-WSEE-1041-RTS. Direct testimony submitted September 29, 2008. Cross Answer testimony submitted October 8, 2008.

"In the Matter of Appalachian Power Company's Application for Increase in Electric Rates," **Virginia** State Corporation Commission, Case No. PUE-2008-00046. Direct testimony submitted September 26, 2008.

"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications with Reconciliation Mechanism and Tariffs for Generation Service," Public Utility Commission of **Ohio**, Case No. 08-936-EL-SSO. Direct testimony submitted September 9, 2008. Deposed September 16, 2008.

"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, to Approve Rate Schedules Designed to Develop Such Return," **Arizona** Corporation Commission, Docket No. E-01345A-08-0172. Direct testimony submitted August 29, 2008 (interim rates), December 19, 2008 (revenue requirement), and January 9, 2009 (cost of service, rate design). Cross examined September 16, 2008 (interim rates).

"Verified Joint Petition of Duke Energy Indiana, Inc., Indianapolis Power & Light Company, Northern Indiana Public Service Company and Vectren Energy Delivery of Indiana, Inc. for Approval, if and to the Extent Required, of Certain Changes in Operations That Are Likely To Result from the Midwest Independent System Operator, Inc.'s Implementation of Revisions to Its Open Access Transmission and Energy Markets Tariff to Establish a Co-Optimized, Competitive Market for Energy and Ancillary Services Market; and for Timely Recovery of Costs Associated with Joint Petitioners' Participation in Such Ancillary Services Market," **Indiana** Utility Regulatory Commission, Cause No. 43426. Direct testimony submitted August 6, 2008. Direct testimony in opposition to Settlement Agreement submitted November 12, 2008. Testimony withdrawn pursuant to stipulation.

"In The Matter of the Application of The Detroit Edison Company for Authority to Increase Its Rates, Amend Its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy, and for Miscellaneous Accounting Authority," **Michigan** Public Service Commission, Case No. U-15244. Direct testimony submitted July 15, 2008. Rebuttal testimony submitted August 8, 2008.

"Portland General Electric General Rate Case Filing," Public Utility Commission of **Oregon**, Docket No. UE-197. Direct testimony submitted July 9, 2008. Surrebuttal testimony submitted September 15, 2008.

"In the Matter of PacifiCorp, dba Pacific Power, 2009 Transition Adjustment Mechanism, Schedule 200, Cost-Based Supply Service," Public Utility Commission of **Oregon**, Docket No. UE-199. Reply testimony submitted June 23, 2008. Joint testimony in support of stipulation submitted September 4, 2008.

"2008 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-072300 and UG-072301. Response testimony submitted May 30, 2008. Cross-Answer testimony submitted July 3, 2008. Joint testimony in support of partial stipulations submitted July 3, 2008 (gas rate spread/rate design), August 12, 2008 (electric rate spread/rate design), and August 28, 2008 (revenue requirements). Cross examined September 3, 2008.

"Verified Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission to Approve an Alternative Regulatory Plan Pursuant to the Ind. Code 8-1-2.5, Et Seq., for the Offering of Energy Efficiency Conservation, Demand Response, and Demand-Side Management Programs and Associated Rate Treatment Including Incentives Pursuant to a Revised Standard Contract Rider No. 66 in Accordance with Ind. Code 8-1-2.5-1Et Seq. and 8-1-2-42(a); Authority to Defer Program Costs Associated with Its Energy Efficiency Portfolio of Programs; Authority to Implement New and Enhanced Energy Efficiency Programs in Its Energy Efficiency Portfolio of Programs; and Approval of a Modification of the Fuel Adjustment Clause Earnings and Expense Tests," **Indiana** Utility Regulatory Commission, Cause No. 43374. Direct testimony submitted May 21, 2008. Testimony withdrawn pursuant to stipulation.

**"Cinergy Corp., Duke Energy Ohio, Inc., Cinergy Power Investments, Inc., Generating Facilities LLCs," Federal Energy Regulatory Commission, Docket No. EC-08-78-000. Affidavit filed May 14, 2008.**

**"Application of Entergy Gulf States, Inc. for Authority to Change Rates and to Reconcile Fuel Costs, Public Utility Commission of Texas, Docket No. 34800 [SOAH Docket No. 473-08-0334]. Direct testimony submitted April 11, 2008. Testimony withdrawn pursuant to stipulation.**

**"Central Illinois Light Company d/b/a AmerenCILCO Proposed General Increase in Electric Delivery Service Rates, Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Electric Delivery Service Rates, Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Electric Delivery Service Rates, Central Illinois Light Company d/b/a AmerenCILCO, Proposed General Increase in Gas Delivery Service Rates, Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Gas Delivery Service Rates, Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Gas Delivery Service Rates," Illinois Commerce Commission, Docket Nos. 07-0585, 07-0586, 07-0587, 07-0588, 07-0589, 07-0590. Direct testimony submitted March 14, 2008. Rebuttal testimony submitted April 8, 2008.**

**"In the Matter of the Application of Public Service Company of Colorado for Authority to Implement an Enhanced Demand Side Management Cost Adjustment Mechanism to Include Current Recovery and Incentives," Colorado Public Utilities Commission, Docket No. 07A-420E. Answer testimony submitted March 10, 2008. Cross examined April 25, 2008.**

**"An Investigation of the Energy and Regulatory Issues in Section 50 of Kentucky's 2007 Energy Act," Kentucky Public Service Commission, Administrative Case No. 2007-00477. Direct testimony submitted February 29, 2008. Supplemental direct testimony submitted April 1, 2008. Cross examined April 30, 2008.**

**In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of Its Operations throughout the State of Arizona, Arizona Corporation Commission, Docket No. E-01933A-07-0402. Direct testimony submitted February 29, 2008 (revenue requirement), March 14, 2008 (rate design), and June 12, 2008 (settlement agreement). Cross examined July 14, 2008.**

**"Commonwealth Edison Company Proposed General Increase in Electric Rates," Illinois Commerce Commission, Docket No. 07-0566. Direct testimony submitted February 11, 2008. Rebuttal testimony submitted April 8, 2008.**

**"In the Matter of the Application of Questar Gas Company to File a General Rate Case," Utah**

Public Service Commission, Docket No. 07-057-13. Direct testimony submitted January 28, 2008 (test period), March 31, 2008 (rate of return), April 21, 2008 (revenue requirement), and August 18, 2008 (cost of service, rate spread, rate design). Rebuttal testimony submitted September 22, 2008 (cost of service, rate spread, rate design). Surrebuttal testimony submitted May 12, 2008 (rate of return) and October 7, 2008 (cost of service, rate spread, rate design). Cross examined February 8, 2008 (test period), May 21, 2008 (rate of return), and October 15, 2008 (cost of service, rate spread, rate design).

**"In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations, Consisting of a General Rate Increase of Approximately \$161.2 Million Per Year, and for Approval of a New Large Load Surcharge," Utah Public Service Commission, Docket No. 07-035-93. Direct testimony submitted January 25, 2008 (test period), April 7, 2008 (revenue requirement), and July 21, 2008 (cost of service, rate design). Rebuttal testimony submitted September 3, 2008 (cost of service, rate design). Surrebuttal testimony submitted May 23, 2008 (revenue requirement) and September 24, 2008 (cost of service, rate design). Cross examined February 7, 2008 (test period).**

**"In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Increase Rates for Distribution Service, Modify Certain Accounting Practices and for Tariff Approvals," Public Utilities Commission of Ohio, Case Nos. 07-551-EL-AIR, 07-552-EL-ATA, 07-553-EL-AAM, and 07-554-EL-UNC. Direct testimony submitted January 10, 2008.**

**"In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Utility Service Rates in Wyoming, Consisting of a General Rate Increase of Approximately \$36.1 Million per Year, and for Approval of a New Renewable Resource Mechanism and Marginal Cost Pricing Tariff," Wyoming Public Service Commission, Docket No. 20000-277-ER-07. Direct testimony submitted January 7, 2008. Cross examined March 6, 2008.**

**"In the Matter of the Application of Idaho Power Company for Authority to Increase Its Rates and Charges for Electric Service to Electric Customers in the State of Idaho," Idaho Public Utilities Commission, Case No. IPC-E-07-8. Direct testimony submitted December 10, 2007. Cross examined January 23, 2008.**

**"In The Matter of the Application of Consumers Energy Company for Authority to Increase Its Rates for the Generation and Distribution Of Electricity and Other Relief," Michigan Public Service Commission, Case No. U-15245. Direct testimony submitted November 6, 2007. Rebuttal testimony submitted November 20, 2007.**



"In the Matter of Montana-Dakota Utilities Co., Application for Authority to Establish Increased Rates for Electric Service," **Montana** Public Service Commission, Docket No. D2007.7.79. Direct testimony submitted October 24, 2007.

"In the Matter of the Application of Public Service Company of New Mexico for Revision of its Retail Electric Rates Pursuant to Advice Notice No. 334," **New Mexico** Public Regulation Commission, Case No. 07-0077-UT. Direct testimony submitted October 22, 2007. Rebuttal testimony submitted November 19, 2007. Cross examined December 12, 2007.

"In The Matter of Georgia Power Company's 2007 Rate Case," **Georgia** Public Service Commission, Docket No. 25060-U. Direct testimony submitted October 22, 2007. Cross examined November 7, 2007.

"In the Matter of the Application of Rocky Mountain Power for an Accounting Order to Defer the Costs Related to the MidAmerican Energy Holdings Company Transaction," **Utah** Public Service Commission, Docket No. 07-035-04; "In the Matter of the Application of Rocky Mountain Power, a Division of PacifiCorp, for a Deferred Accounting Order To Defer the Costs of Loans Made to Grid West, the Regional Transmission Organization," Docket No. 06-035-163; "In the Matter of the Application of Rocky Mountain Power for an Accounting Order for Costs related to the Flooding of the Powerdale Hydro Facility," Docket No. 07-035-14. Direct testimony submitted September 10, 2007. Surrebuttal testimony submitted October 22, 2007. Cross examined October 30, 2007.

"In the Matter of General Adjustment of Electric Rates of East Kentucky Power Cooperative, Inc.," **Kentucky** Public Service Commission, Case No. 2006-00472. Direct testimony submitted July 6, 2007. Supplemental direct testimony submitted March 14, 2008.

"In the Matter of the Application of Sempra Energy Solutions for a Certificate of Convenience and Necessity for Competitive Retail Electric Service," **Arizona** Corporation Commission, Docket No. E-03964A-06-0168. Direct testimony submitted July 3, 2007. Rebuttal testimony submitted January 17, 2008.

"Application of Public Service Company of Oklahoma for a Determination that Additional Electric Generating Capacity Will Be Used and Useful," **Oklahoma** Corporation Commission, Cause No. PUD 200500516; "Application of Public Service Company of Oklahoma for a Determination that Additional Baseload Electric Generating Capacity Will Be Used and Useful," Cause No. PUD 200600030; "In the Matter of the Application of Oklahoma Gas and Electric Company for an Order Granting Pre-Approval to Construct Red Rock Generating Facility and Authorizing a Recovery Rider," Cause No. PUD200700012. Responsive testimony submitted May 21, 2007. Cross examined July 26, 2007.

“Application of Nevada Power Company for Authority to Increase Its Annual Revenue Requirement for General Rates Charged to All Classes of Electric Customers and for Relief Properly Related Thereto,” Public Utilities Commission of **Nevada**, Docket No. 06-11022. Direct testimony submitted March 14, 2007 (Phase III – revenue requirements) and March 19, 2007 (Phase IV – rate design). Cross examined April 10, 2007 (Phase III – revenue requirements) and April 16, 2007 (Phase IV – rate design).

“In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service,” **Arkansas** Public Service Commission, Docket No. 06-101-U. Direct testimony submitted February 5, 2007. Surrebuttal testimony submitted March 26, 2007.

“Monongahela Power Company and The Potomac Edison Company, both d/b/a Allegheny Power – Rule 42T Application to Increase Electric Rates and Charges,” Public Service Commission of **West Virginia**, Case No. 06-0960-E-42T; “Monongahela Power Company and The Potomac Edison Company, both d/b/a Allegheny Power – Information Required for Change of Depreciation Rates Pursuant to Rule 20,” Case No. 06-1426-E-D. Direct and rebuttal testimony submitted January 22, 2007.

“In the Matter of the Tariffs of Aquila, Inc., d/b/a Aquila Networks-MPS and Aquila Networks-L&P Increasing Electric Rates for the Services Provided to Customers in the Aquila Networks-MPS and Aquila Networks-L&P Missouri Service Areas,” **Missouri** Public Service Commission, Case No. ER-2007-0004. Direct testimony submitted January 18, 2007 (revenue requirements) and January 25, 2007 (revenue apportionment). Supplemental direct testimony submitted February 27, 2007.

“In the Matter of the Filing by Tucson Electric Power Company to Amend Decision No. 62103, **Arizona** Corporation Commission, Docket No. E-01933A-05-0650. Direct testimony submitted January 8, 2007. Surrebuttal testimony filed February 8, 2007. Cross examined March 8, 2007.

“In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company’s Missouri Service Area,” **Missouri** Public Service Commission, Case No. ER-2007-0002. Direct testimony submitted December 15, 2006 (revenue requirements) and December 29, 2006 (fuel adjustment clause/cost-of-service/rate design). Rebuttal testimony submitted February 5, 2007 (cost-of-service). Surrebuttal testimony submitted February 27, 2007. Cross examined March 21, 2007.

“In the Matter of Application of The Union Light, Heat and Power Company d/b/a Duke Energy Kentucky, Inc. for an Adjustment of Electric Rates,” **Kentucky** Public Service Commission, Case No. 2006-00172. Direct testimony submitted September 13, 2006.

**"In the Matter of Appalachian Power Company's Application for Increase in Electric Rates,"** Virginia State Corporation Commission, Case No. PUE-2006-00065. Direct testimony submitted September 1, 2006. Cross examined December 7, 2006.

**"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, To Approve Rate Schedules Designed to Develop Such Return, and to Amend Decision No. 67744, Arizona Corporation Commission,"** Docket No. E-01345A-05-0816. Direct testimony submitted August 18, 2006 (revenue requirements) and September 1, 2006 (cost-of-service/rate design). Surrebuttal testimony submitted September 27, 2006. Cross examined November 7, 2006.

**"Re: The Tariff Sheets Filed by Public Service Company of Colorado with Advice Letter No 1454 – Electric,"** Colorado Public Utilities Commission, Docket No. 06S-234EG. Answer testimony submitted August 18, 2006.

**"Portland General Electric General Rate Case Filing,"** Public Utility Commission of Oregon, Docket No. UE-180. Direct testimony submitted August 9, 2006. Joint testimony regarding stipulation submitted August 22, 2006.

**"2006 Puget Sound Energy General Rate Case,"** Washington Utilities and Transportation Commission, Docket Nos. UE-060266 and UG-060267. Response testimony submitted July 19, 2006. Joint testimony regarding stipulation submitted August 23, 2006.

**"In the Matter of PacifiCorp, dba Pacific Power & Light Company, Request for a General Rate Increase in the Company's Oregon Annual Revenues,"** Public Utility Commission of Oregon, Docket No. UE-179. Direct testimony submitted July 12, 2006. Joint testimony regarding stipulation submitted August 21, 2006.

**"Petition of Metropolitan Edison Company for Approval of a Rate Transition Plan,"** Pennsylvania Public Utilities Commission, Docket Nos. P-00062213 and R-00061366; **"Petition of Pennsylvania Electric Company for Approval of a Rate Transition Plan,"** Docket Nos. P-0062214 and R-00061367; **Merger Savings Remand Proceeding,** Docket Nos. A-110300F0095 and A-110400F0040. Direct testimony submitted July 10, 2006. Rebuttal testimony submitted August 8, 2006. Surrebuttal testimony submitted August 18, 2006. Cross examined August 30, 2006.

**"In the Matter of the Application of PacifiCorp for approval of its Proposed Electric Rate Schedules & Electric Service Regulations,"** Utah Public Service Commission, Docket No. 06-035-21. Direct testimony submitted June 9, 2006 (Test Period). Surrebuttal testimony submitted July 14, 2006.

"Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy for the Approval of the Conservation Enabling Tariff Adjustment Option and Accounting Orders," **Utah** Public Service Commission, Docket No. 05-057-T01. Direct testimony submitted May 15, 2006. Rebuttal testimony submitted August 8, 2007. Cross examined September 19, 2007.

"Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, Illinois Power Company d/b/a AmerenIP, Proposed General Increase in Rates for Delivery Service (Tariffs Filed December 27, 2005)," **Illinois** Commerce Commission, Docket Nos. 06-0070, 06-0071, 06-0072. Direct testimony submitted March 26, 2006. Rebuttal testimony submitted June 27, 2006.

"In the Matter of Appalachian Power Company and Wheeling Power Company, both dba American Electric Power," Public Service Commission of **West Virginia**, Case No. 05-1278-E-PC-PW-42T. Direct and rebuttal testimony submitted March 8, 2006.

"In the Matter of Northern States Power Company d/b/a Xcel Energy for Authority to Increase Rates for Electric Service in Minnesota," **Minnesota** Public Utilities Commission, Docket No. G-002/GR-05-1428. Direct testimony submitted March 2, 2006. Rebuttal testimony submitted March 30, 2006. Cross examined April 25, 2006.

"In the Matter of the Application of Arizona Public Service Company for an Emergency Interim Rate Increase and for an Interim Amendment to Decision No. 67744," **Arizona** Corporation Commission, Docket No. E-01345A-06-0009. Direct testimony submitted February 28, 2006. Cross examined March 23, 2006.

"In the Matter of the Applications of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes in Their Charges for Electric Service," State Corporation Commission of **Kansas**, Case No. 05-WSEE-981-RTS. Direct testimony submitted September 9, 2005. Cross examined October 28, 2005.

"In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Recover Costs Associated with the Construction and Ultimate Operation of an Integrated Combined Cycle Electric Generating Facility," Public Utilities Commission of **Ohio**," Case No. 05-376-EL-UNC. Direct testimony submitted July 15, 2005. Cross examined August 12, 2005.

"In the Matter of the Filing of General Rate Case Information by Tucson Electric Power Company Pursuant to Decision No. 62103," **Arizona** Corporation Commission, Docket No. E-01933A-04-0408. Direct testimony submitted June 24, 2005.

"In the Matter of Application of The Detroit Edison Company to Unbundle and Realign Its Rate Schedules for Jurisdictional Retail Sales of Electricity," **Michigan** Public Service Commission, Case No. U-14399. Direct testimony submitted June 9, 2005. Rebuttal testimony submitted July 1, 2005.

"In the Matter of the Application of Consumers Energy Company for Authority to Increase Its Rates for the Generation and Distribution of Electricity and Other Relief," **Michigan** Public Service Commission, Case No. U-14347. Direct testimony submitted June 3, 2005. Rebuttal testimony submitted June 17, 2005.

"In the Matter of Pacific Power & Light, Request for a General Rate Increase in the Company's Oregon Annual Revenues," Public Utility Commission of **Oregon**, Docket No. UE 170. Direct testimony submitted May 9, 2005. Surrebuttal testimony submitted June 27, 2005. Joint testimony regarding partial stipulations submitted June 2005, July 2005, and August 2005.

"In the Matter of the Application of Trico Electric Cooperative, Inc. for a Rate Increase," **Arizona** Corporation Commission, Docket No. E-01461A-04-0607. Direct testimony submitted April 13, 2005. Surrebuttal testimony submitted May 16, 2005. Cross examined May 26, 2005.

"In the Matter of the Application of PacifiCorp for Approval of its Proposed Electric Service Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 04-035-42. Direct testimony submitted January 7, 2005.

"In the Matter of the Application by Golden Valley Electric Association, Inc., for Authority to Implement Simplified Rate Filing Procedures and Adjust Rates," Regulatory Commission of **Alaska**, Docket No. U-4-33. Direct testimony submitted November 5, 2004. Cross examined February 8, 2005.

"Advice Letter No. 1411 - Public Service Company of Colorado Electric Phase II General Rate Case," **Colorado** Public Utilities Commission, Docket No. 04S-164E. Direct testimony submitted October 12, 2004. Cross-answer testimony submitted December 13, 2004. Testimony withdrawn January 18, 2005, following Applicant's withdrawal of testimony pertaining to TOU rates.

"In the Matter of Georgia Power Company's 2004 Rate Case," **Georgia** Public Service Commission, Docket No. 18300-U. Direct testimony submitted October 8, 2004. Cross examined October 27, 2004.

"2004 Puget Sound Energy General Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-040641 and UG-040640. Response testimony submitted

September 23, 2004. Cross-answer testimony submitted November 3, 2004. Joint testimony regarding stipulation submitted December 6, 2004.

**"In the Matter of the Application of PacifiCorp for an Investigation of Interjurisdictional Issues," Utah Public Service Commission, Docket No. 02-035-04. Direct testimony submitted July 15, 2004. Cross examined July 19, 2004.**

**"In the Matter of an Adjustment of the Gas and Electric Rates, Terms and Conditions of Kentucky Utilities Company," Kentucky Public Service Commission, Case No. 2003-00434. Direct testimony submitted March 23, 2004. Testimony withdrawn pursuant to stipulation entered May 2004.**

**"In the Matter of an Adjustment of the Gas and Electric Rates, Terms and Conditions of Louisville Gas and Electric Company," Kentucky Public Service Commission, Case No. 2003-00433. Direct testimony submitted March 23, 2004. Testimony withdrawn pursuant to stipulation entered May 2004.**

**"In the Matter of the Application of Idaho Power Company for Authority to Increase Its Interim and Base Rates and Charges for Electric Service," Idaho Public Utilities Commission, Case No. IPC-E-03-13. Direct testimony submitted February 20, 2004. Rebuttal testimony submitted March 19, 2004. Cross examined April 1, 2004.**

**"In the Matter of the Applications of the Ohio Edison Company, the Cleveland Electric Illuminating Company and the Toledo Edison Company for Authority to Continue and Modify Certain Regulatory Accounting Practices and Procedures, for Tariff Approvals and to Establish Rates and Other Charges, Including Regulatory Transition Charges Following the Market Development Period," Public Utilities Commission of Ohio, Case No. 03-2144-EL-ATA. Direct testimony submitted February 6, 2004. Cross examined February 18, 2004.**

**"In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, To Fix a Just and Reasonable Rate of Return Thereon, To Approve Rate Schedules Designed to Develop Such Return, and For Approval of Purchased Power Contract," Arizona Corporation Commission, Docket No. E-01345A-03-0437. Direct testimony submitted February 3, 2004. Rebuttal testimony submitted March 30, 2004. Direct testimony regarding stipulation submitted September 27, 2004. Responsive / Clarifying testimony regarding stipulation submitted October 25, 2004. Cross examined November 8-10, 2004 and November 29-December 3, 2004.**

**"In the Matter of Application of the Detroit Edison Company to Increase Rates, Amend Its Rate Schedules Governing the Distribution and Supply of Electric Energy, etc.," Michigan Public Service Commission, Case No. U-13808. Direct testimony submitted December 12, 2003 (interim request) and March 5, 2004 (general rate case).**

**"In the Matter of PacifiCorp's Filing of Revised Tariff Schedules," Public Utility Commission of Oregon, Docket No. UE-147. Joint testimony regarding stipulation submitted August 21, 2003.**

**"Petition of PSI Energy, Inc. for Authority to Increase Its Rates and Charges for Electric Service, etc.," Indiana Utility Regulatory Commission, Cause No. 42359. Direct testimony submitted August 19, 2003. Cross examined November 5, 2003.**

**"In the Matter of the Application of Consumers Energy Company for a Financing Order Approving the Securitization of Certain of its Qualified Cost," Michigan Public Service Commission, Case No. U-13715. Direct testimony submitted April 8, 2003. Cross examined April 23, 2003.**

**"In the Matter of the Application of Arizona Public Service Company for Approval of Adjustment Mechanisms," Arizona Corporation Commission, Docket No. E-01345A-02-0403. Direct testimony submitted February 13, 2003. Surrebuttal testimony submitted March 20, 2003. Cross examined April 8, 2003.**

**"Re: The Investigation and Suspension of Tariff Sheets Filed by Public Service Company of Colorado, Advice Letter No. 1373 – Electric, Advice Letter No. 593 – Gas, Advice Letter No. 80 – Steam," Colorado Public Utilities Commission, Docket No. 02S-315 EG. Direct testimony submitted November 22, 2002. Cross-answer testimony submitted January 24, 2003.**

**"In the Matter of the Application of The Detroit Edison Company to Implement the Commission's Stranded Cost Recovery Procedure and for Approval of Net Stranded Cost Recovery Charges," Michigan Public Service Commission, Case No. U-13350. Direct testimony submitted November 12, 2002.**

**"Application of South Carolina Electric & Gas Company: Adjustments in the Company's Electric Rate Schedules and Tariffs," Public Service Commission of South Carolina, Docket No. 2002-223-E. Direct testimony submitted November 8, 2002. Surrebuttal testimony submitted November 18, 2002. Cross examined November 21, 2002.**

**"In the Matter of the Application of Questar Gas Company for a General Increase in Rates and Charges," Utah Public Service Commission, Docket No. 02-057-02. Direct testimony submitted August 30, 2002. Rebuttal testimony submitted October 4, 2002.**

**"The Kroger Co. v. Dynegy Power Marketing, Inc.," Federal Energy Regulatory Commission, EL02-119-000. Confidential affidavit filed August 13, 2002.**

**"In the matter of the application of Consumers Energy Company for determination of net stranded costs and for approval of net stranded cost recovery charges," Michigan Public Service**

Commission, Case No. U-13380. Direct testimony submitted August 9, 2002. Rebuttal testimony submitted August 30, 2002. Cross examined September 10, 2002.

"In the Matter of the Application of Public Service Company of Colorado for an Order to Revise Its Incentive Cost Adjustment," **Colorado** Public Utilities Commission, Docket 02A-158E. Direct testimony submitted April 18, 2002.

"In the Matter of the Generic Proceedings Concerning Electric Restructuring Issues," **Arizona** Corporation Commission, Docket No. E-00000A-02-0051, "In the Matter of Arizona Public Service Company's Request for Variance of Certain Requirements of A.A.C. R14-2-1606," Docket No. E-01345A-01-0822, "In the Matter of the Generic Proceeding Concerning the Arizona Independent Scheduling Administrator," Docket No. E-00000A-01-0630, "In the Matter of Tucson Electric Power Company's Application for a Variance of Certain Electric Competition Rules Compliance Dates," Docket No. E-01933A-02-0069, "In the Matter of the Application of Tucson Electric Power Company for Approval of its Stranded Cost Recovery," Docket No. E-01933A-98-0471. Direct testimony submitted March 29, 2002 (APS variance request); May 29, 2002 (APS Track A proceeding/market power issues); and July 28, 2003 (Arizona ISA). Rebuttal testimony submitted August 29, 2003 (Arizona ISA). Cross examined June 21, 2002 (APS Track A proceeding/market power issues) and September 12, 2003 (Arizona ISA).

"In the Matter of Savannah Electric & Power Company's 2001 Rate Case," **Georgia** Public Service Commission, Docket No. 14618-U. Direct testimony submitted March 15, 2002. Cross examined March 28, 2002.

"Nevada Power Company's 2001 Deferred Energy Case," Public Utilities Commission of **Nevada**, PUCN 01-11029. Direct testimony submitted February 7, 2002. Cross examined February 21, 2002.

"2001 Puget Sound Energy Interim Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-011570 and UE-011571. Direct testimony submitted January 30, 2002. Cross examined February 20, 2002.

"In the Matter of Georgia Power Company's 2001 Rate Case," **Georgia** Public Service Commission, Docket No. 14000-U. Direct testimony submitted October 12, 2001. Cross examined October 24, 2001.

"In the Matter of the Application of PacifiCorp for Approval of Its Proposed Electric Rate Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 01-35-01. Direct testimony submitted June 15, 2001. Rebuttal testimony submitted August 31, 2001.



"In the Matter of Portland General Electric Company's Proposal to Restructure and Reprice Its Services in Accordance with the Provisions of SB 1149," Public Utility Commission of **Oregon**, Docket No. UE-115. Direct testimony submitted February 20, 2001. Rebuttal testimony submitted May 4, 2001. Joint testimony regarding stipulation submitted July 27, 2001.

"In the Matter of the Application of APS Energy Services, Inc. for Declaratory Order or Waiver of the Electric Competition Rules," **Arizona** Corporation Commission, Docket No. E-01933A-00-0486. Direct testimony submitted July 24, 2000.

"In the Matter of the Application of Questar Gas Company for an Increase in Rates and Charges," **Utah** Public Service Commission, Docket No. 99-057-20. Direct testimony submitted April 19, 2000. Rebuttal testimony submitted May 24, 2000. Surrebuttal testimony submitted May 31, 2000. Cross examined June 6 & 8, 2000.

"In the Matter of the Application of Columbus Southern Power Company for Approval of Electric Transition Plan and Application for Receipt of Transition Revenues," Public Utility Commission of **Ohio**, Case No. 99-1729-EL-ETP; "In the Matter of the Application of Ohio Power Company for Approval of Electric Transition Plan and Application for Receipt of Transition Revenues," Public Utility Commission of **Ohio**, Case No. 99-1730-EL-ETP. Direct testimony prepared, but not submitted pursuant to settlement agreement effected May 2, 2000.

"In the Matter of the Application of FirstEnergy Corp. on Behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and the Toledo Edison Company for Approval of Their Transition Plans and for Authorization to Collect Transition Revenues," Public Utility Commission of **Ohio**, Case No. 99-1212-EL-ETP. Direct testimony prepared, but not submitted pursuant to settlement agreement effected April 11, 2000.

"2000 Pricing Process," **Salt River Project** Board of Directors, oral comments provided March 6, 2000 and April 10, 2000.

"Tucson Electric Power Company vs. Cyprus Sierrita Corporation," **Arizona** Corporation Commission, Docket No. E-000001-99-0243. Direct testimony submitted October 25, 1999. Cross examined November 4, 1999.

"Application of Hildale City and Intermountain Municipal Gas Association for an Order Granting Access for Transportation of Interstate Natural Gas over the Pipelines of Questar Gas Company for Hildale, Utah," **Utah** Public Service Commission, Docket No. 98-057-01. Rebuttal testimony submitted August 30, 1999.

"In the Matter of the Application by Arizona Electric Power Cooperative, Inc. for Approval of Its Filing as to Regulatory Assets and Transition Revenues," **Arizona** Corporation Commission,

Docket No. E-01773A-98-0470. Direct testimony submitted July 30, 1999. Cross examined February 28, 2000.

"In the Matter of the Application of Tucson Electric Power Company for Approval of its Plan for Stranded Cost Recovery," **Arizona** Corporation Commission, Docket No. E-01933A-98-0471; "In the Matter of the Filing of Tucson Electric Power Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01933A-97-0772; "In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," Docket No. RE-00000C-94-0165. Direct testimony submitted June 30, 1999. Rebuttal testimony submitted August 6, 1999. Cross examined August 11-13, 1999.

"In the Matter of the Application of Arizona Public Service Company for Approval of its Plan for Stranded Cost Recovery," **Arizona** Corporation Commission, Docket No. E-01345A-98-0473; "In the Matter of the Filing of Arizona Public Service Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01345A-97-0773; "In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," Docket No. RE-00000C-94-0165. Direct testimony submitted June 4, 1999. Rebuttal testimony submitted July 12, 1999. Cross examined July 14, 1999.

"In the Matter of the Application of Tucson Electric Power Company for Approval of its Plan for Stranded Cost Recovery," **Arizona** Corporation Commission, Docket No. E-01933A-98-0471; "In the Matter of the Filing of Tucson Electric Power Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01933A-97-0772; "In the Matter of the Application of Arizona Public Service Company for Approval of its Plan for Stranded Cost Recovery," Docket No. E-01345A-98-0473; "In the Matter of the Filing of Arizona Public Service Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.," Docket No. E-01345A-97-0773; "In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," Docket No. RE-00000C-94-0165. Direct testimony submitted November 30, 1998.

"Hearings on Pricing," **Salt River Project** Board of Directors, written and oral comments provided November 9, 1998.

"Hearings on Customer Choice," **Salt River Project** Board of Directors, written and oral comments provided June 22, 1998; June 29, 1998; July 9, 1998; August 7, 1998; and August 14, 1998.

"In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona," **Arizona** Corporation Commission, Docket No. U-0000-94-165. Direct and rebuttal testimony filed January 21, 1998. Second rebuttal testimony filed February 4, 1998. Cross examined February 25, 1998.

"In the Matter of Consolidated Edison Company of New York, Inc.'s Plans for (1) Electric Rate/Restructuring Pursuant to Opinion No. 96-12; and (2) the Formation of a Holding Company Pursuant to PSL, Sections 70, 108, and 110, and Certain Related Transactions," **New York** Public Service Commission, Case 96-E-0897. Direct testimony filed April 9, 1997. Cross examined May 5, 1997.

"In the Matter of the Petition of Sunnyside Cogeneration Associates for Enforcement of Contract Provisions," **Utah** Public Service Commission, Docket No. 96-2018-01; "In the Matter of the Application of Rocky Mountain Power for an Order Approving an Amendment to Its Power Purchase Agreement with Sunnyside Cogeneration Associates," Docket Nos. 05-035-46, and 07-035-99. Direct testimony submitted July 8, 1996. Oral testimony provided March 18, 2008.

"In the Matter of the Application of PacifiCorp, dba Pacific Power & Light Company, for Approval of Revised Tariff Schedules and an Alternative Form of Regulation Plan," **Wyoming** Public Service Commission, Docket No. 2000-ER-95-99. Direct testimony submitted April 8, 1996.

"In the Matter of the Application of Mountain Fuel Supply Company for an Increase in Rates and Charges," **Utah** Public Service Commission, Case No. 95-057-02. Direct testimony submitted June 19, 1995. Rebuttal testimony submitted July 25, 1995. Surrebuttal testimony submitted August 7, 1995.

"In the Matter of the Investigation of the Reasonableness of the Rates and Tariffs of Mountain Fuel Supply Company," **Utah** Public Service Commission, Case No. 89-057-15. Direct testimony submitted July 1990. Surrebuttal testimony submitted August 1990.

"In the Matter of the Review of the Rates of Utah Power and Light Company pursuant to The Order in Case No. 87-035-27," **Utah** Public Service Commission, Case No. 89-035-10. Rebuttal testimony submitted November 15, 1989. Cross examined December 1, 1989 (rate schedule changes for state facilities).

"In the Matter of the Application of Utah Power & Light Company and PC/UP&L Merging Corp. (to be renamed PacifiCorp) for an Order Authorizing the Merger of Utah Power & Light Company and PacifiCorp into PC/UP&L Merging Corp. and Authorizing the Issuance of Securities, Adoption of Tariffs, and Transfer of Certificates of Public Convenience and Necessity and Authorities in Connection Therewith," **Utah** Public Service Commission, Case No. 87-035-27; Direct testimony submitted April 11, 1988. Cross examined May 12, 1988 (economic impact of UP&L merger with PacifiCorp).

"In the Matter of the Application of Mountain Fuel Supply Company for Approval of Interruptible Industrial Transportation Rates," **Utah** Public Service Commission, Case No. 86-057-07. Direct testimony submitted January 15, 1988. Cross examined March 30, 1988.

"In the Matter of the Application of Utah Power and Light Company for an Order Approving a Power Purchase Agreement," **Utah Public Service Commission**, Case No. 87-035-18. Oral testimony delivered July 8, 1987.

"Cogeneration: Small Power Production," **Federal Energy Regulatory Commission**, Docket No. RM87-12-000. Statement on behalf of State of Utah delivered March 27, 1987, in San Francisco.

"In the Matter of the Investigation of Rates for Backup, Maintenance, Supplementary, and Standby Power for Utah Power and Light Company," **Utah Public Service Commission**, Case No. 86-035-13. Direct testimony submitted January 5, 1987. Case settled by stipulation approved August 1987.

"In the Matter of the Application of Sunnyside Cogeneration Associates for Approval of the Cogeneration Power Purchase Agreement," **Utah Public Service Commission**, Case No. 86-2018-01. Rebuttal testimony submitted July 16, 1986. Cross examined July 17, 1986.

"In the Matter of the Investigation of Demand-Side Alternatives to Capacity Expansion for Electric Utilities," **Utah Public Service Commission**, Case No. 84-999-20. Direct testimony submitted June 17, 1985. Rebuttal testimony submitted July 29, 1985. Cross examined August 19, 1985.

"In the Matter of the Implementation of Rules Governing Cogeneration and Small Power Production in Utah," **Utah Public Service Commission**, Case No. 80-999-06, pp. 1293-1318. Direct testimony submitted January 13, 1984 (avoided costs), May 9, 1986 (security for levelized contracts) and November 17, 1986 (avoided costs). Cross-examined February 29, 1984 (avoided costs), April 11, 1985 (standard form contracts), May 22-23, 1986 (security for levelized contracts) and December 16-17, 1986 (avoided costs).

#### **OTHER RELATED ACTIVITY**

Participant, Wyoming Load Growth Collaborative, March 2008 to present.

Participant, Oregon Direct Access Task Force (UM 1081), May 2003 to November 2003.

Participant, Michigan Stranded Cost Collaborative, March 2003 to March 2004.

Member, Arizona Electric Competition Advisory Group, December 2002 to present.

Board of Directors, ex-officio, Desert STAR RTO, September 1999 to February 2002.

Member, Advisory Committee, Desert STAR RTO, September 1999 to February 2002. Acting Chairman, October 2000 to February 2002.

Board of Directors, Arizona Independent Scheduling Administrator Association, October 1998 to present.

Acting Chairman, Operating Committee, Arizona Independent Scheduling Administrator Association, October 1998 to June 1999.

Member, Desert Star ISO Investigation Working Groups: Operations, Pricing, and Governance, April 1997 to December 1999. Legal & Negotiating Committee, April 1999 to December 1999.

Participant, Independent System Operator and Spot Market Working Group, Arizona Corporation Commission, April 1997 to September 1997.

Participant, Unbundled Services and Standard Offer Working Group, Arizona Corporation Commission, April 1997 to October 1997.

Participant, Customer Selection Working Group, Arizona Corporation Commission, March 1997 to September 1997.

Member, Stranded Cost Working Group, Arizona Corporation Commission, March 1997 to September 1997.

Member, Electric System Reliability & Safety Working Group, Arizona Corporation Commission, November 1996 to September 1998.

Chairman, Salt Palace Renovation and Expansion Committee, Salt Lake County/State of Utah/Salt Lake City, multi-government entity responsible for implementation of planning, design, finance, and construction of an \$85 million renovation of the Salt Palace Convention Center, Salt Lake City, Utah, May 1991 to December 1994.

State of Utah Representative, Committee on Regional Electric Power Cooperation, a joint effort of the Western Interstate Energy Board and the Western Conference of Public Service Commissioners, January 1987 to December 1990.

Member, Utah Governor's Economic Coordinating Committee, January 1987 to December 1990.

Chairman, Standard Contract Task Force, established by Utah Public Service Commission to address contractual problems relating to qualifying facility sales under PURPA, March 1986 to December 1990.

Chairman, Load Management and Energy Conservation Task Force, Utah Public Service Commission, August 1985 to December 1990.

Alternate Delegate for Utah, Western Interstate Energy Board, Denver, Colorado, August 1985 to December 1990.

Articles Editor, Economic Forum, September 1980 to August 1981.

ND: 4843-8171-9299, v. 1

Comparison of Cost of Service Study Sensitivity Results at Varying Proportions of Customer-Related Costs for Accounts 364 - 367

LINE NO.	DESCRIPTION	TOTAL DISTRIBUTION	RESIDENTIAL	SECONDARY DIST LARG	SECONDARY DIST LARG EH	SECONDARY DIST SMALL DM	SECONDARY DIST SMALL GSFL	PRIMARY DISTRIBUTION	TRANSMISSION	LIGHTING
1	PRESENT REVENUES	310,277,415	183,880,582	82,512,029	1,063,549	18,263,896	463,026	16,417,391	1,186,721	7,140,321
2	<u>Duke Energy Ohio as filed with Acts 364-367 Classified as 100% Demand-Related</u>									
3	DEMAND-RELATED COST OF SERVICE	289,915,213	138,146,671	105,833,259	1,338,324	9,411,717	529,570	31,576,003	0	3,079,669
4	CUSTOMER-RELATED COST OF SERVICE	106,617,573	81,727,854	12,045,316	276,097	6,847,448	59,238	1,313,733	128,945	4,226,952
5	TOTAL ELECTRIC COST OF SERVICE	396,532,786	219,874,524	117,878,574	1,614,422	16,259,165	588,799	32,889,736	128,945	7,306,620
6	INCREASE REQUIRED TO ACHIEVE COST OF SERVICE	85,605,370	35,991,942	35,366,545	599,873	(2,004,731)	125,773	16,472,346	(1,065,776)	166,399
7	PERCENT INCREASE REQUIRED TO ACHIEVE COS	27.5%	19.6%	42.9%	51.8%	-11.9%	27.2%	106.3%	-89.8%	2.3%
8	<u>Kroger Study with Acts 364-367 Classified as 28% Customer-Related/72% Demand-Related</u>									
9	DEMAND-RELATED COST OF SERVICE	250,975,180	118,242,379	92,741,819	1,175,433	8,043,695	463,585	27,487,498	0	2,620,861
10	CUSTOMER-RELATED COST OF SERVICE	145,657,607	116,788,794	13,439,670	313,641	9,015,369	88,096	1,352,583	128,945	4,526,599
11	TOTAL ELECTRIC COST OF SERVICE	396,632,787	235,031,171	106,181,487	1,489,074	17,059,064	551,681	28,839,972	128,945	7,147,373
12	INCREASE REQUIRED TO ACHIEVE COST OF SERVICE	85,605,372	51,250,589	23,689,458	425,525	(1,204,832)	88,655	12,472,601	(1,065,776)	7,152
13	PERCENT INCREASE REQUIRED TO ACHIEVE COS	27.5%	27.9%	28.7%	40.0%	-4.6%	17.4%	75.7%	-89.8%	8.1%
14	<u>Kroger Study with Acts 364-367 Classified as 58% Customer-Related/42% Demand-Related</u>									
15	DEMAND-RELATED COST OF SERVICE	207,000,997	96,723,140	77,516,309	985,825	6,527,848	386,373	22,789,752	0	2,080,750
16	CUSTOMER-RELATED COST OF SERVICE	189,521,791	155,944,518	15,340,308	360,487	11,445,762	105,787	1,421,055	128,945	4,883,936
17	TOTAL ELECTRIC COST OF SERVICE	396,522,787	252,667,652	92,856,617	1,346,312	17,973,608	492,159	24,210,807	128,945	6,964,685
18	INCREASE REQUIRED TO ACHIEVE COST OF SERVICE	85,605,372	68,887,870	19,344,588	282,763	(290,288)	29,133	7,793,418	(1,065,776)	(175,536)
19	PERCENT INCREASE REQUIRED TO ACHIEVE COS	27.5%	37.6%	12.5%	26.6%	-1.6%	6.3%	47.5%	-89.8%	-2.5%
20	<u>Kroger Study with Acts 364-367 Classified as 88% Customer-Related/12% Demand-Related</u>									
21	DEMAND-RELATED COST OF SERVICE	179,678,977	83,882,648	67,722,644	863,690	5,600,438	334,784	19,919,048	0	1,733,815
22	CUSTOMER-RELATED COST OF SERVICE	216,853,809	172,862,394	16,793,652	392,936	12,945,030	113,572	1,498,747	128,945	5,117,133
23	TOTAL ELECTRIC COST OF SERVICE	396,532,785	256,745,042	84,516,296	1,256,626	18,545,468	448,356	21,317,795	128,945	6,850,946
24	INCREASE REQUIRED TO ACHIEVE COST OF SERVICE	85,605,370	79,384,460	2,005,669	192,986	281,572	(2,670)	4,900,404	(1,065,776)	(289,275)
25	PERCENT INCREASE REQUIRED TO ACHIEVE COS	27.5%	43.3%	2.4%	18.1%	1.5%	-4.8%	29.8%	-89.8%	-4.1%

# Kroger Proposed Distribution of Revenue Increase at Duke Ohio's Requested Revenue Increase

Duke Energy Ohio  
Case No. 08-709-EL-AIR  
for the Twelve Months Ended December 31, 2008  
(Electric Service)

## CURRENT VS. PROPOSED ANNUALIZED

Line No.	Rate Code (A)	Class/Description (B)	Customer Bills (C)	Sales (D) (kWh)	Current Revenue Less Fuel Cost (E) (\$)	Proposed Revenue Less Fuel Cost (F) (\$)	Revenue Incr. Less Fuel Cost Rev. (F - E) (G) (\$)	% Incr. in Rev. Less Fuel Cost Rev. (G + E) (H) (%)
1	Total Residential		7,545,060	7,516,461,855	183,880,582	235,333,887	51,453,305	28.0
2	DS/DS RTP	Sec. Distribution Service	270,670	6,849,163,962	82,512,029	105,600,473	23,088,444	28.0
3	GSFL	Unmetered Small Fixed Load	3,358	29,101,782	463,026	592,590	129,564	28.0
4	EH	Electric Space Heating	5,160	88,416,637	1,063,549	1,361,150	297,601	28.0
5	DM	Sec. Distribution Service - Small	504,887	549,503,054	18,263,896	23,374,484	5,110,588	28.0
6	DP/DP RTP	Prim. Distribution Voltage	3,756	2,643,619,393	16,417,391	21,011,291	4,593,900	28.0
7	Total Distribution		787,831	10,159,804,828	118,719,891	151,939,988	33,220,097	28.0
8	Total Transmission		629	3,275,027,907	1,186,721	119,800	(1,066,921)	-89.9
9	Total Lighting		1,508,028	124,064,537	7,140,221	9,138,191	1,997,970	28.0
10	Total Company		9,841,548	21,075,359,127	310,927,415	396,531,866	85,604,451	27.53
11	Interdepartmental		12	6,998,760	108,037	108,037	0	0.0
12	Bad Check Charges		0	0	184,709	184,709	0	0.0
13	Late Payment Charges		0	0	0	0	0	0.0
14	Reconnection Charges		0	0	441,882	441,882	0	0.0
15	Rents-Distribution		0	0	2,610,016	2,610,016	0	0.0
16	Pole Contact Rentals		0	0	522,303	1,728,710	1,206,407	231.0
17	Intercompany		0	0	0	0	0	0.0
18	Special Contracts		24	583,459	12,000	12,000	0	0.0
19	Other Misc.		0	0	1,698,552	1,698,552	0	0.0
20	Total Misc.		36	7,582,219	5,577,499	6,783,906	1,206,407	21.6
21	Total Company		9,841,584	21,082,941,346	316,504,914	403,315,772	86,810,858	27.43



# Kroger Proposed Distribution of Revenue Increase at Staff's Lower Bound Recommended Revenue Increase

Duke Energy Ohio  
Case No. 08-709-EL-AIR  
for the Twelve Months Ended December 31, 2008  
(Electric Service)

## CURRENT VS. PROPOSED ANNUALIZED

Line No.	Rate Code (A)	Class/Description (B)	Customer Bills (C)	Sales (D) (kWh)	Current Revenue Less Fuel Cost (E) (\$)	Proposed Revenue Less Fuel Cost (F) (\$)	Revenue Incr. Less Fuel Cost Rev. (F - E) (G) (\$)	% Incr. in Rev. Less Fuel Cost Rev. (G ÷ E) (H) (%)
1	Total Residential		7,545,060	7,516,461,855	183,880,582	216,538,753	32,658,171	17.8
2	DS/DS RTP	Sec. Distribution Service	270,670	6,849,103,962	82,512,029	97,166,605	14,654,576	17.8
3	GSFL	Unmetered Small Fixed Load	3,358	29,101,782	463,026	545,262	82,236	17.8
4	EH	Electric Space Heating	5,160	88,416,637	1,063,549	1,252,441	188,892	17.8
5	DM	Sec. Distribution Service - Small	504,887	549,503,054	18,263,896	21,507,661	3,243,765	17.8
6	DP/DP RTP	Prim. Distribution Voltage	3,756	2,643,619,393	16,417,391	19,333,207	2,915,816	17.8
7	Total Distribution		787,831	10,159,804,828	118,719,891	139,895,176	21,085,285	17.8
8	Total Transmission		629	3,275,027,907	1,186,721	119,800	(1,066,921)	-89.9
9	Total Lighting		1,508,028	124,064,537	7,140,221	8,408,362	1,268,141	17.8
10	Total Company		9,841,548	21,075,389,127	310,927,415	364,872,092	53,944,677	17.35
11	Interdepartmental		12	6,998,760	108,037	108,037	0	0.0
12	Bad Check Charges		0	0	184,709	184,709	0	0.0
13	Late Payment Charges		0	0	0	0	0	0.0
14	Reconnection Charges		0	0	441,882	441,882	0	0.0
15	Restri-Distribution		0	0	2,610,016	2,610,016	0	0.0
16	Pole Contact Rentals		0	0	522,303	777,346	255,043	48.8
17	Intercompany		0	0	0	0	0	0.0
18	Special Contracts		24	583,459	12,000	12,000	0	0.0
19	Other Misc.		0	0	1,698,552	1,698,552	0	0.0
20	Total Misc.		36	7,582,219	5,577,499	5,832,542	255,043	4.6
21	Total Company		9,841,584	21,082,941,346	316,504,914	370,704,634	54,199,720	17.12

**Kroger Proposed Distribution of Revenue Increase  
at Staff's Upper Bound Recommended Revenue Increase**

Duke Energy Ohio  
Case No. 08-709-EL-AIR  
for the Twelve Months Ended December 31, 2008  
(Electric Service)

**CURRENT VS. PROPOSED ANNUALIZED**

Line No.	Rate Code (A)	Class/Description (B)	Customer Bills (C)	Sales (D) (kWh)	Current Revenue Less Fuel Cost (E)	Proposed Revenue Less Fuel Cost (F)	Revenue Incr. Less Fuel Cost Rev. (F - E) (G)	% Incr. in Rev. Less Fuel Cost Rev. (G + E) (H)
1	Total Residential		7,545,060	7,516,461,855	183,880,582	221,346,979	37,466,397	20.4
2	DS/DS RTP	Sec. Distribution Service	270,670	6,849,163,962	82,512,029	99,324,182	16,812,153	20.4
3	GSFL	Unmetered Small Fixed Load	3,358	29,101,782	463,026	557,369	94,343	20.4
4	EH	Electric Space Heating	5,160	88,416,637	1,063,549	1,280,251	216,702	20.4
5	DM	Sec. Distribution Service - Small	504,887	549,503,054	18,263,896	21,985,237	3,721,341	20.4
6	DP/DP RTP	Prim. Distribution Voltage	3,756	2,643,619,393	16,417,391	19,762,499	3,345,108	20.4
7	Total Distribution		787,831	10,159,804,828	118,719,891	142,909,539	24,189,648	20.4
8	Total Transmission		629	3,275,027,907	1,186,721	119,800	(1,066,921)	-89.9
9	Total Lighting		1,508,028	124,064,537	7,140,231	8,595,069	1,454,838	20.4
10	Total Company		9,841,548	21,075,359,127	310,927,415	372,971,388	62,043,973	19.95
11	Interdepartmental		12	6,998,760	108,037	108,037	0	0.0
12	Bad Check Charges		0	0	184,709	184,709	0	0.0
13	Late Payment Charges		0	0	0	0	0	0.0
14	Reconnection Charges		0	0	441,882	441,882	0	0.0
15	Rents-Distribution		0	0	2,610,016	2,610,016	0	0.0
16	Pole Contact Rentals		0	0	522,303	777,346	255,043	48.8
17	Intercompany		0	0	0	0	0	0.0
18	Special Contracts		24	583,459	12,000	12,000	0	0.0
19	Other Misc.		0	0	1,698,552	1,698,552	0	0.0
20	Total Misc.		36	7,582,219	5,577,499	5,832,542	255,043	4.6
21	Total Company		9,841,584	21,082,941,346	316,504,914	378,803,930	62,299,016	19.68

# Kroger DS Rate Design Proposal at Duke Energy Ohio's Requested DS Revenue Increase

Duke Energy Ohio  
Case No. 08-709-EL-AIR  
for the Twelve Months Ended December 31, 2008  
(Electric Service)

## PROPOSED ANNUALIZED

Line No.	Rate Code	Class/Description	Customer Bills / Actual	Sales / Minimum Demand	Proposed Rates	Proposed Revenue Less Fuel Cost	% of Rev. to Total Less Fuel Cost	Fuel Cost Revenue	Proposed Total Revenue (F + H)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
				(kW/kWh)	(¢/kWh/(\$/kW))	(\$)	(%)	(\$)	(\$)
1	DS	Service at Secondary							
2		Distribution Voltage							
3		Distribution Charges:							
4		Customer Charge							
5		Single Phase	56,450		\$25.00	1,411,250	1.2		1,411,250
6		Load Mgmt Rider (no interval meters)	12,394		\$7.50	91,955	0.1		91,955
7		Three Phase	200,494		\$50.00	10,024,700	8.5		10,024,700
8		Load Mgmt Rider (interval meters)	951		\$150.00	143,650	0.1		143,650
9		Total Customer Charge	270,289			11,671,555	9.9		11,671,555
10		Demand Charge							
11		All kW	20,765,534	20,765,535	\$5.1043	105,993,515	90.1		105,993,515
12		Total Distribution	20,765,534	20,765,535		117,665,070	100.0		117,665,070
13		Transmission Charges:							
14		Demand Charges All kW	20,765,534	20,765,534		0	0.0		0
15		Auxiliary Services	20,765,534	20,765,534		0	0.0		0
16		Total Transmission	20,765,534	20,765,534		0	0.0		0
17		Generation Charges:							
18		Demand Charge							
19		First 1,000 kW		19,603,129		0	0.0		0
20		Additional kW		1,162,405		0	0.0		0
21		Total Demand Charge		20,765,534		0	0.0		0
22		Energy Charge							
23		Next 340 kWh/kW	5,328,315,076	5,328,315,076		0	0.0		0
24		Additional kWh	1,516,056,514	1,516,056,514		0	0.0		0
25		Total Energy Charge	6,844,371,590	6,844,371,590		0	0.0		0
26		Total Generation	6,844,371,590	6,844,371,590		0	0.0		0
27		Total Rate DS	270,289	6,844,371,590		117,665,070	100.0	0	117,665,070

28 Difference in Demand Charges  
29 Duke Energy Ohio's Proposed Demand Charge  
30 Difference

\$5,2145  
(\$0.1102)

**Kroger DS Rate Design Proposal**  
**at Staff's Table 4 Recommended DS Revenue Increase**  
(Excluding DS RTP)

Duke Energy Ohio  
Case No. 08-709-EL-AIR  
for the Twelve Months Ended December 31, 2008  
(Electric Service)

**PROPOSED ANNUALIZED**

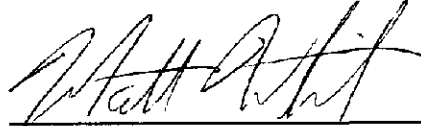
Line No.	Rate Code (A)	Class/Description (B)	Customer Bills / Actual Demands (C)	Sales / Minimum Demand (D) (kW/AWh)	Proposed Rates (E) (¢/kWh) (¢/kW)	Proposed Revenue Less Fuel Cost (F) (\$)	% of Rev. to Fuel Cost (G) (%)	Fuel Cost Revenue (H) (\$)	Proposed Total Revenue (F + H) (I) (\$)
1	DS	Service at Secondary							
2		Distribution Voltage							
3		<b>Distribution Charges:</b>							
4		Customer Charge							
5		Single Phase	56,450		\$25.80	1,411,250	1.3		1,411,250
6		Load Mgmt Rider (no interval meters)	12,394		\$7.50	92,955	0.1		92,955
7		Three Phase	200,494		\$50.40	10,024,706	8.9		10,024,706
8		Load Mgmt Rider (interval meters)	951		\$150.00	142,650	0.1		142,650
9		<b>Total Customer Charge</b>	<b>270,289</b>			<b>11,671,555</b>	<b>10.3</b>		<b>11,671,555</b>
10		Demand Charge							
11		All kW	20,765,534	20,765,535	\$4.8736	101,202,907	89.7		101,202,907
12		<b>Total Distribution</b>	<b>20,765,534</b>	<b>20,765,535</b>		<b>112,874,462</b>	<b>100.0</b>		<b>112,874,462</b>
13		<b>Transmission Charges:</b>							
14		Demand Charges All kW	20,765,534	20,765,534		0	0.0		0
15		Auxiliary Services	20,765,534	20,765,534		0	0.0		0
16		<b>Total Transmission</b>	<b>20,765,534</b>	<b>20,765,534</b>		<b>0</b>	<b>0.0</b>		<b>0</b>
17		<b>Generation Charges:</b>							
18		Demand Charge							
19		First 1,000 kW		19,603,129		0	0.0		0
20		Additional kW		1,162,405		0	0.0		0
21		<b>Total Demand Charge</b>		<b>20,765,534</b>		<b>0</b>	<b>0.0</b>		<b>0</b>
22		Energy Charge							
23		Next 300 kW/kWh	5,328,315,076	5,328,315,076		0	0.0		0
24		Additional kWh	1,516,856,514	1,516,856,514		0	0.0		0
25		<b>Total Energy Charge</b>	<b>6,844,371,590</b>	<b>6,844,371,590</b>		<b>0</b>	<b>0.0</b>		<b>0</b>
26		<b>Total Generation</b>	<b>6,844,371,590</b>	<b>6,844,371,590</b>		<b>0</b>	<b>0.0</b>		<b>0</b>
27		<b>Total Rate DS</b>	<b>270,289</b>	<b>6,844,371,590</b>		<b>112,874,462</b>	<b>100.0</b>	<b>0</b>	<b>112,874,462</b>

<b>\$5,160</b> <b>(90,2864)</b>
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28 Difference in Demand Charges  
29 Staff's Proposed Demand Charge  
30 Difference

## CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing testimony was served upon the following parties of record or as a courtesy, via electronic transmission, on February 26, 2009.



Matthew S. White, Esq.

### SERVICE LIST

Paul G. Smith  
Vice President, Rates  
Duke Energy Ohio  
139 East Fourth Street  
5<sup>th</sup> Floor Atrium II  
Cincinnati OH 45202  
[paul.smith@duke-energy.com](mailto:paul.smith@duke-energy.com)

Paul A. Colbert  
Amy B. Spiller  
Elizabeth Watts  
Rocco D'Ascenzo  
Duke Energy Business Services, Inc.  
139 East Fourth Street  
25th Floor, Atrium II  
Cincinnati OH 45202  
[paul.colbert@duke-energy.com](mailto:paul.colbert@duke-energy.com)  
[amy.spiller@duke-energy.com](mailto:amy.spiller@duke-energy.com)  
[elizabeth.watts@duke-energy.com](mailto:elizabeth.watts@duke-energy.com)  
[rocco.d'ascenzo@duke-energy.com](mailto:rocco.d'ascenzo@duke-energy.com)

David Rinebolt  
Colleen Mooney  
Ohio Partners for Affordable Energy  
231 West Lima Street  
P.O. Box 1793  
Findlay, OH 45839-1793  
[drinebolt@aol.com](mailto:drinebolt@aol.com)  
[cmooney2@columbus.rr.com](mailto:cmooney2@columbus.rr.com)

David F. Boehm, Esq.  
Michael L. Kurtz, Esq.  
Boehm, Kurtz & Lowry  
36 East Seventh Street, Suite 1510  
Cincinnati, Ohio 45202  
[dboehm@bklawfirm.com](mailto:dboehm@bklawfirm.com)  
[mkurtz@bklawfirm.com](mailto:mkurtz@bklawfirm.com)

Stephen Reilly  
Scott Farkas  
Jeanne Kingery  
The Public Utilities Commission of Ohio  
180 East Broad Street  
Columbus, Ohio 43215  
[stephen.reilly@puc.state.oh.us](mailto:stephen.reilly@puc.state.oh.us)  
[scott.farkas@puc.state.oh.us](mailto:scott.farkas@puc.state.oh.us)  
[jeanne.kingery@puc.state.oh.us](mailto:jeanne.kingery@puc.state.oh.us)

Ann M. Hotz  
Jeffrey L. Small  
Larry S. Sauer  
Office of the Ohio Consumers' Counsel  
10 West Broad Street, Suite 1800  
Columbus, Ohio 43215-3485  
[hotz@occ.state.oh.us](mailto:hotz@occ.state.oh.us)  
[small@occ.state.oh.us](mailto:small@occ.state.oh.us)  
[sauer@occ.state.oh.us](mailto:sauer@occ.state.oh.us)

Thomas J. O'Brien  
Counsel of Record  
Sally W. Bloomfield  
Bricker & Eckler LLP  
100 South Third Street  
Columbus, OH 43215-4291  
[tobrien@bricker.com](mailto:tobrien@bricker.com)  
[sbloomfield@bricker.com](mailto:sbloomfield@bricker.com)

Mary Christensen  
Christensen Christensen Donchatz  
Kettlewell & Owens, LLP  
100 East Campus View Blvd., Suite 360  
Columbus OH 43235-4679  
[mchristensen@columbuslaw.org](mailto:mchristensen@columbuslaw.org)

Pamela H. Sherwood  
Vice President of Regulatory Affairs,  
Midwest Region  
tw telecom  
4625 West 86th Street, Suite 500  
Indianapolis, IN 46268  
[pamela.sherwood@twtelecom.com](mailto:pamela.sherwood@twtelecom.com)

Douglas E. Hart  
441 Vine Street; Suite 4192  
Cincinnati, OH 45202  
[dhart@douglasshart.com](mailto:dhart@douglasshart.com)

Christopher L. Miller  
Schottenstein Zox & Dunn Co., LPA  
250 West Street  
Columbus, OH 43215  
[cmiller@szd.com](mailto:cmiller@szd.com)

Stephen M. Howard  
Vorys, Sater, Seymour and Pease LLP  
52 East Gay Street, P.O. Box 1008  
Columbus, Ohio 43216-1008  
[smhoward@vorys.com](mailto:smhoward@vorys.com)

Gardner F. Gillespie  
Hogan & Hartson LLP  
Columbia Square  
555 13th Street, N.W.  
Washington, D.C. 20004  
[gfgillespie@hhlaw.com](mailto:gfgillespie@hhlaw.com)

Paul A. Werner  
Hogan & Hartson LLP  
Columbia Square  
555 13th Street, N.W.  
Washington, D.C. 20004  
[pawerner@hhlaw.com](mailto:pawerner@hhlaw.com)