

**BEFORE THE CORPORATION COMMISSION  
OF THE STATE OF OKLAHOMA**

**APPLICATION OF PUBLIC )  
SERVICE COMPANY OF OKLAHOMA FOR )  
A DETERMINATION THAT ) CAUSE NO. PUD 2005-00516  
ADDITIONAL ELECTRIC GENERATING )  
CAPACITY WILL BE USED AND USEFUL )**

**APPLICATION OF PUBLIC )  
SERVICE COMPANY OF OKLAHOMA )  
FOR A DETERMINATION THAT )  
ADDITIONAL BASELOAD ELECTRIC )  
GENERATING CAPACITY WILL BE )  
USED AND USEFUL ) CAUSE NO. PUD 2006-00030**

**IN THE MATTER OF THE APPLICATION )  
OF OKLAHOMA GAS AND ELECTRIC )  
COMPANY FOR AN ORDER OF THE )  
COMMISSION GRANTING PRE-APPROVAL )  
TO CONSTRUCT RED ROCK ) CAUSE NO. PUD 200700012  
GENERATING FACILITY AND )  
AUTHORIZING A RECOVERY RIDER )**

**RESPONSIVE TESTIMONY  
OF  
J. RANDALL WOOLRIDGE**

**ON BEHALF OF  
OKLAHOMA INDUSTRIAL ENERGY CONSUMERS (OIEC)  
IN RESPONSE TO DIRECT TESTIMONY OF PSO**

**MAY 21, 2007**

1 **Q. PLEASE STATE YOUR FULL NAME, ADDRESS, AND OCCUPATION.**

2 A. My name is J. Randall Woolridge and my business address is 120 Haymaker Circle,  
3 State College, PA 16801. I am a Professor of Finance and the Goldman, Sachs & Co.  
4 and Frank P. Smeal Endowed University Fellow in Business Administration at the  
5 University Park Campus of the Pennsylvania State University. I am also the Director  
6 of the Smeal College Trading Room and President of the Nittany Lion Fund, LLC. A  
7 summary of my educational background, research, and related business experience is  
8 provided in Appendix A.

9 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION AND**  
10 **HAS THIS COMMISSION ACCEPTED YOUR QUALIFICATIONS?**

11 A. Yes. I recently testified in PSO's pending rate case proceeding, CAUSE NO. PUD  
12 2006-00285.

13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

14 A. I have been asked by the Oklahoma Industrial Energy Consumers (OIEC) to provide an  
15 opinion on PSO's Carrying and Capacity Charges associated with the bid provided by  
16 AES for purchased power capacity in response to PSO's Request for Proposal for  
17 baseload generating capacity (RFP).

18

19 **Q. WHAT DO YOU CONCLUDE ABOUT THE CARRYING AND CAPACITY**  
20 **CHARGES IN THE AES PURCHASED POWER AGREEMENT (PPA) BID?**

21 A. I conclude that these charges are overstated which causes the AES bid to be  
22 uneconomic. The overstated amount results from including in the total Carrying and  
23 Capacity Charges a Debt Equivalence (DE) charge of \$447,808M. The \$447,808M DE

1 charge is addressed in the testimony of PSO witness Mr. Steven Fate and the calculation  
2 of the \$447,808M DE figure was provided by PSO in response to AES Data Requests 6-  
3 6 and 6-7. In addition, the DE adjustment is addressed in the testimony of Ms. Renee V.  
4 Hawkins. The major error in the DE adjustment is that it is based on an unproven and  
5 uncertain methodology and presumes a S&P risk factor of 100%. There is no  
6 regulatory consensus on how to deal with DE issues in the power supply procurement  
7 process and/or in setting an overall cost of capital for a public utility. In view of the  
8 above, I recommend that the Commission reject the DE adjustment approach of PSO  
9 when determining the present value of capacity payments in the AES bid. In the  
10 alternative, if the Commission determines that a debt equivalence charge must be  
11 assessed to the AES bid, I recommend that the Commission either authorize a DE  
12 adjustment with a risk factor of no greater than 30% or that the Commission consider  
13 this issue in connection with a review of PSO's cost of capital during an over-all rate  
14 review.

15

16 **Q. PLEASE PROVIDE A GENERAL DISCUSSION OF THE DE ISSUE.**

17 A. Debt equivalency is the practice of imputing amounts of debt to PPAs. The three  
18 main rating agencies, Standard & Poor's (S&P), Moody's and FitchRatings (Fitch),  
19 claim that including DE in utility financial analysis allows for more meaningful  
20 comparisons with utilities that build generation, as opposed to buying their power.  
21 Credit rating agencies consider long-term purchase power agreements (PPAs) to be  
22 fixed financial commitments with characteristics similar to debt securities. Credit  
23 rating agencies apply a DE factor to the capitalizations of electric utilities that

1 purchase power under PPAs. The PPA creates risk by requiring a utility to pay a  
2 minimum amount on a regular basis for many years into the future in the form of a  
3 capacity payment. In application, the rating agencies apply a risk factor to the present  
4 value of expected payments, which reflects the likelihood of recovery by the buyer.  
5 The risk factor is subjective, ranges from 0% to 100%, and is determined based on an  
6 analysis of regulatory treatment and timeliness of the recovery of purchased-power  
7 costs. The product of the risk factor (expressed as a percentage) and the net present  
8 value of the PPA's capacity payments represents the equivalent amount of debt to be  
9 used for capitalization purposes and for the calculation of credit rating ratios. These  
10 adjusted ratios can then be compared to the ratios of utilities that build and generate  
11 their own power.

12  
13 **Q. WHAT IS THE RELEVANCE OF DE IN THIS PROCEEDING?**

14 A. Due to the rating agency approach to DE, utilities such as PSO contend that, in the  
15 power bidding process, DE must be included as a cost factor in assessing PPAs  
16 against rate-based, self-build generation. As such, PSO has included a cost factor of  
17 \$447,808M to the AES' PPA proposal to reflect the Company's assessment of the  
18 cost of this proposal on its capital structure.

19  
20 **Q. PLEASE DISCUSS THE COMPANY'S APPROACH.**

21 A. In response to AES 6-7 (Attachment 2), PSO has provided its Baseload RFP Evaluation.  
22 Under the 'Summary' tab, for the AES Big Cedar PC, PSO shows a figure for the  
23 'Carrying and Capacity Charges.' This figure includes a DE Charge of \$447,808M.

1 **Q. PLEASE PROVIDE DETAILS ON THE CALCULATION OF THE DE**  
2 **CHARGE?**

3 A. Details of the DE charge are contained in an Excel spreadsheet provided in response to  
4 AES 6-6d. The key assumptions include a 12/31/2005 capital structure of 50.77% debt  
5 (DBT%) and 48.77% (EQ%) common equity, an incremental borrowing cost rate of  
6 6.065%, and debt (DBTCST%) and equity cost rates (EQCST%) of 5.85% and 10.75%.  
7 The DE charge is computed as:

8

9 1. PSO first estimates the present value of the fixed payment obligations  
10 (PVFPO). Using PSO's incremental borrowing rate of 6.065%, the Year 1 present  
11 value of all future payments is \$1,140,000M.

12 2. PSO then multiples this value by the EQ% of 48.77% to get \$555,947M,  
13 which is new equity (NEWEQ) required to maintain the current capital structure  
14 ratios. The net debt (NETDBT) associated with the PVPFO then is equal to PVPFO –  
15 NEWEQ, or \$584,053M.

16 3. The revenue requirement (RRDE) that is required to compensate PSO for DE  
17 is calculated as the incremental equity cost (NEWEQ \* EQ%) minus savings from the  
18 debt reduction cost (NETDBT \* DBTCST%). For Year 1, these calculations are  
19  $(555,947M * 10.75\% = \$97,463M)$  and  $(\$584,053M * 5.85\% = \$32,545M)$ , respectively.  
20 In this case, the RRDE figure for Year 1 is equal to  $\$97,463M - \$32,545M =$   
21  $\$64,918M$ .

22 4. The DE figure of \$447,808M is equal to the present value of RRDE over the  
23 2006-2040 time period discounted by PSO's cost of capital.

1

2 **Q. PLEASE REVIEW THE PROBLEMS AND ERRORS IN PSO'S DE**  
3 **ADJUSTMENT OF \$447,808M.**

4 A. There are two relatively minor issues and one major problem with PSO's DE  
5 calculation. The first two minor issues are the capital structure and equity cost rate.  
6 First, the capital structure is of 12/31/05 and includes 50.77% debt and 48.77% common  
7 equity. However, the 6/30/05 capital structure, which is the capital structure used in  
8 PSO's base rate case and was the capital structure at the time when the RFP decision  
9 was announced, was 53.55% debt and 46.02% common equity. Using the more  
10 updated capital structure would decrease the DE adjustment. Second, the common  
11 equity cost rate of 10.75% appears to have been based on an equity return rate  
12 referenced in a Stipulation and Settlement Agreement in PSO's 2003 rate proceeding,  
13 Cause Number PUD 2003-00076. First, that ROE is not applicable to this Cause.  
14 Second, PSO is currently involved in a rate proceeding (Cause No. 2006-00285)  
15 which should establish an authorized ROE and ROR for the Company. Finally, the  
16 average allowed returns on common equity for electric utilities was below this figure  
17 as of the first half of 2006. Using a lower return on common equity would also  
18 decrease the DE adjustment.

19

20 **Q. WHAT IS THE MAJOR ERROR IN PSO'S DE ADJUSTMENT?**

21 A. The primary error in the Company's DE calculation is that PSO has effectively applied a  
22 risk factor of 100% to the present value of expected payments. As discussed above,  
23 credit rating agencies multiply the PVFPO by a risk factor which is subjective, ranges

1 from 0% to 100%, and reflects the expected regulatory treatment and timeliness of the  
2 recovery of purchased-power costs. By using a risk factor of 100%, PSO presumes  
3 the highest level of risk factor for the AES PPA. PSO's 100% risk factor justification  
4 is provided by PSO witness Ms. Hawkins. OIEC Witness Mark Garrett addresses  
5 Ms. Hawkins evaluation of the AES PPA proposal and its classification as a capital  
6 lease. The point of this discussion is to address the manner in which rating agencies  
7 and regulatory commissions have addressed the risk factor.

8

9 **Q. PLEASE DISCUSS THE RISK FACTOR AS USED BY RATING AGENCIES.**

10 A. S&P does not indicate how the risk factor that ranges from 0% to 100% is determined.  
11 However, Standard & Poor's does indicate that they use a risk factor of 50% as a  
12 generic guideline for utilities with PPAs included as an operating expense in base  
13 tariffs. Furthermore, when purchased power costs may be recovered via a fuel-  
14 adjustment clause, risk is lower and S&P deems a risk factor of 25% as appropriate.<sup>1</sup>  
15 Regardless, given the methodology for imputing debt from PPAs, the risk factor is  
16 extremely important, but it is also based on unpublished, subjective factors.

17 Moody's recognizes some of the benefits of Purchased Power Agreements  
18 (PPAs) and looks at them in a more positive manner. For example, Moody's states:<sup>2</sup>

19 "If a utility enters into a PPA for the purpose of providing an assured supply  
20 and there is reasonable assurance that regulators will allow the costs to be  
21 recovered in regulated rates, Moody's may view the PPA as being most akin  
22 to an operating cost. In this circumstance, there most likely will be no  
23 imputed adjustment to the obligations of the utility."  
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<sup>1</sup> See Exhibit RVH-2S, page 2 of 6.

<sup>2</sup> Moody's Rating Methodology: Global Regulated Electric Utilities, March 2005, page 10.

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Furthermore, as noted by S&P, a PPA does have advantages in that some risks are shifted to the supplier. For example, construction and operating risks are borne by the power supplier. The risk to the utility is that of recovering the fixed financial obligation in rates.

**Q. HOW HAVE OTHER STATE PUBLIC UTILITY COMMISSIONS DEALT WITH DE IN THE BID EVALUATION PROCESS?**

A. I am not familiar with the decisions of all state public utility commissions on the DE issue. However, of the states that I am familiar with, there is no consensus on the need to make DE adjustments in either cost of capital cases and/or the supply procurement process. In addition, in decisions where it is deemed that a DE adjustment is necessary, there is not agreement on the appropriate methodology to be used for the adjustment. In particular, the risk factor applied to the present value of future payment obligations is subject to much debate. The summary below comes from two states which have reached opposite decisions on the need for a DE adjustment.

Connecticut: Docket No. 05-07-18 - Department of Public Utility Control. On December 6, 2005, the Connecticut DPUC issued a decision on debt imputation involving Connecticut Light & Power Co. In its decision, the Department rejected the roll-in of debt equivalence charges into capacity contracts as well as the use of debt equivalence adjustments in the evaluation and selection of bids. However, the

1 decision does allow electric distribution companies to request debt equivalence  
2 adjustments within the context of a rate case based on financial impacts that can be  
3 proven attributable to capacity contracts, “ if needed for electric distribution  
4 companies to attract needed capital and maintain their financial integrity.”

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6 California: On December 16, 2004, in a decision involving Pacific Gas & Electric  
7 Company, the California Public Utility Commission (CPUC), recognized an  
8 adjustment for DE in the power procurement process. According to that decision,  
9 when evaluating PPA bids, the Investor-Owned Utility (IOU) is required to employ  
10 Standard & Poor’s (S&P’s) method of assessing the debt equivalence impacts on the  
11 IOU’s credit ratings. But, instead of using 30% of the present value of the fixed  
12 capacity payments due under a PPA as the debt equivalent (as S&P’s method does),  
13 the factor would be reduced to 20%. In addition, the CPUC will consider the debt  
14 equivalence impact of PPAs on the IOUs' credit ratings in their future cost of capital  
15 proceedings.

16 Other states have also weighed in on the DE adjustment issue.<sup>3</sup> The Public Service  
17 Commission in Georgia has ruled that debt imputation can not be considered by  
18 utilities in evaluating RFP bids. Florida allows a DE adjustment in the resource  
19 procurement process, with a risk factor adjustment of 30%. So does Washington, but  
20 with a risk factor that ranges from 15%-40%. Finally some other states, such as  
21 Wisconsin, will authorize compensation in a utility's cost of capital proceedings as  
22 part of an overall rate review. In such case, Wisconsin will allow an adjustment for

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<sup>3</sup> For a summary, see *Electric Utility Resource Planning: The Role of Competitive Procurement and Debt Equivalency*, Electric Power Supply Association, July 2005.

1 PPA debt equivalency when it is demonstrated that the PPA degrades the utility's  
2 credit rating.

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4 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

5 A. PSO has overstated the Carrying and Capacity Charges associated with the PPA bid by  
6 AES. Overstating these charges causes the bid to be non-competitive. The  
7 overstatement results, in part, from including in the total Carrying and Capacity Charges  
8 a debt equivalence charge of \$447,808M. The \$447,808M DE charge is based on an  
9 unproven and uncertain methodology and presumes a S&P risk factor of 100%. In  
10 support of this, I have shown that there is no regulatory consensus on how to deal with  
11 DE issues in the power supply procurement process and/or in setting an overall cost of  
12 capital for a public utility.

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14 **Q. WHAT IS YOUR RECOMMENDATION TO THE COMMISSION?**

15 A. I recommend that, in the consideration of the Carrying and Capacity Charges associated  
16 with the AES PPA bid, the Commission reject the assessment of a DEC charge as  
17 proposed by PSO to the present value of capacity payments in connection with the AES  
18 bid. In the alternative, if the Commission determines that a debt equivalence charge  
19 should be assessed to the AES bid, I recommend that the Commission authorize a DE  
20 adjustment in an amount consistent with this testimony with a risk factor of no greater  
21 than 30% or consider this DE issue in connection with PSO's cost of capital to be  
22 determined during an over-all rate review.

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1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

2 A. Yes.

## APPENDIX A

### EDUCATIONAL BACKGROUND, RESEARCH, AND RELATED BUSINESS EXPERIENCE

#### J. RANDALL WOOLRIDGE

**J. Randall Woolridge is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed Faculty Fellow in Business Administration in the College of Business Administration of the Pennsylvania State University in University Park, PA. In addition, Professor Woolridge is Director of the Smeal College Trading Room and President and CEO of the Nittany Lion Fund, LLC.**

Professor Woolridge received a Bachelor of Arts degree in Economics from the University of North Carolina, a Master of Business Administration degree from the Pennsylvania State University, and a Doctor of Philosophy degree in Business Administration (major area-finance, minor area-statistics) from the University of Iowa. At Iowa he received a Graduate Fellowship and was awarded membership in Beta Gamma Sigma, a national business honorary society. He has taught Finance courses at the University of Iowa, Cornell College, and the University of Pittsburgh, as well as the Pennsylvania State University. These courses include corporation finance, commercial and investment banking, and investments at the undergraduate, graduate, and executive MBA levels.

Professor Woolridge's research has centered on the theoretical and empirical foundations of corporation finance and financial markets and institutions. He has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance*, the *Journal of Financial Economics*, and the *Harvard Business Review*. His research has been cited extensively in the business press. His work has been featured in the *New York Times*, *Forbes*, *Fortune*, *The Economist*, *Financial World*, *Barron's*, *Wall Street Journal*, *Business Week*, *Washington Post*, *Investors' Business Daily*, *Worth Magazine*, *USA Today*, and other publications. In addition, Dr. Woolridge has appeared as a guest on CNN's *Money Line* and CNBC's *Morning Call* and *Business Today*.

The second edition of Professor Woolridge's popular stock valuation book, *The StreetSmart Guide to Valuing a Stock* (McGraw-Hill, 2003), was released in its second edition. He has also co-authored *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation, 1999) as well as a new textbook entitled *Applied Principles of Finance* (Kendall Hunt, 2006). Dr. Woolridge is a founder and a managing director of [www.valuepro.net](http://www.valuepro.net) - a stock valuation website.

Professor Woolridge has also consulted with and prepared research reports for major corporations, financial institutions, and investment banking firms, and government agencies. In addition, he has directed and participated in over 500 university- and company- sponsored professional development programs for executives in 25 countries in North and South America, Europe, Asia, and Africa.

Dr. Woolridge has prepared testimony and/or provided consultation services in the following cases:

**Pennsylvania:** Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Pennsylvania Public Utility Commission: Bell Telephone Company (R-811819), Peoples Natural Gas Company (R-832315), Pennsylvania Power Company (R-832409), Western Pennsylvania Water Company (R-832381), Pennsylvania Power Company (R-842740), Pennsylvania Gas and Water Company (R-850178), Metropolitan Edison Company (R-860384), Pennsylvania Electric Company (R-860413), North Penn Gas Company (R-860535), Philadelphia Electric Company (R-870629), Western Pennsylvania Water Company (R-870825), York Water Company (R-870749), Pennsylvania-American Water Company (R-880916), Equitable Gas Company (R-880971), the Bloomsburg Water Co. (R-891494), Columbia Gas of Pennsylvania, Inc. (R-891468), Pennsylvania-American Water Company (R-90562), Breezewood Telephone Company (R-901666), York Water Company (R-901813), Columbia Gas of Pennsylvania, Inc. (R-901873), National Fuel Electric utility Company (R-911912), Pennsylvania-American Water Company (R-911909), Borough of Media Water Fund (R-912150), UGI Utilities, Inc. - Electric Utility Division (R-922195), Dauphin Consolidated Water Supply Company - General Waterworks of Pennsylvania, Inc, (R-932604), National Fuel Electric utility Company (R-932548), Commonwealth Telephone Company (I-920020), Conestoga Telephone and Telegraph Company (I-920015), Peoples Natural Gas Company (R-932866), Blue Mountain Consolidated Water Company (R-932873), National Fuel Gas Company (R-942991), UGI - Gas Division (R-953297), UGI - Electric Division (R-953534), Pennsylvania-American Water Company (R-973944), Pennsylvania-American Water Company (R-994638), Philadelphia Suburban Water Company (R-994868;R-994877;R-994878; R-9948790), Philadelphia Suburban Water Company (R-994868), Wellsboro Electric Company (R-00016356), Philadelphia Suburban Water Company (R-00016750), National Fuel Electric utility Company (R-00038168), Pennsylvania-American Water Company (R-00038304), York Water Company (R-00049165), Valley Energy Company (R-00049345), Wellsboro Electric Company (R-00049313), National Fuel Gas Utility Corporation (R-00049656), T.W. Phillips Gas and Oil Co. (R-00051178), PG Energy (R-00061365), City of Dubois Water Company (Docket No. R-00050671), R-00049165), York Water Company (R-00061322), and Emporium Water Company (R-00061297).

**New Jersey:** Dr. Woolridge prepared testimony for the New Jersey Department of the Public Advocate, Division of Rate Counsel: New Jersey-American Water Company (R-91081399J), New Jersey-American Water Company (R-92090908J), and Environmental Disposal Corp (R-94070319).

**Alaska:** Dr. Woolridge prepared testimony for Attorney General's Office of Alaska: Golden Heart Utilities, Inc. and College Utilities Corp. (Water Public Utility Service TA-29-118 and Sewer Public Utility Service TA-82-97).

**Arizona:** Dr. Woolridge prepared testimony for Utility Division Staff of the Arizona Corporation Commission, Arizona Public Service Company (Docket No. E-01345A-06-0009).

**Hawaii:** Dr. Woolridge prepared testimony for the Hawaii Office of the Consumer Advocate: East Honolulu Community Services, Inc. (Docket No. 7718).

**Delaware:** Dr. Woolridge prepared testimony for the Delaware Division of Public Advocate: Artesian Water Company (R-00-649). Dr. Woolridge prepared testimony for the Staff of the Public Service Commission: Artesian Water Company (R-06-158).

**Ohio:** Dr. Woolridge prepared testimony for the Ohio Office of Consumers' Council: SBC Ohio (Case No. 02-1280-TP-UNC R-00-649), and Cincinnati Gas & Electric Company (Case No. 05-0059-EL-AIR).

**Texas:** Dr. Woolridge prepared testimony for the Atmos Cities Steering Committee: Mid-Texas Division of Atmos Energy Corp. (Docket No. 9670).

**New York:** Dr. Woolridge prepared testimony for the County of Nassau in New York State: Long Island Lighting Company (PSC Case No. 942354).

**Florida:** Dr. Woolridge prepared testimony for the Office of Peoples Counsel in Florida: Florida Power & Light Co. (Docket No. 050045-EL).

**Connecticut:** Dr. Woolridge prepared testimony for the Office of Consumer Counsel in Connecticut: United Illuminating (Docket No. 96-03-29), Yankee Gas Company (Docket No. 04-06-01), Southern Connecticut Gas Company (Docket No. 03-03-17), the United Illuminating Company (Docket No. 05-06-04), Connecticut Light and Power Company (Docket No. 05-07-18), Birmingham Utilities, Inc. (Docket No. 06-05-10), Connecticut Water Company (Docket No. 06-07-08), and Connecticut Natural Gas Corp. (Docket No. 06-03-04).

**California:** Dr. Woolridge prepared testimony for the Office of Ratepayer Advocate in California: San Gabriel Valley Water Company (Docket No. 05-08-021).

**South Carolina:** Dr. Woolridge prepared testimony for the Office of Regulatory Staff in South Carolina: South Carolina Electric and Gas Company (Docket No. 2005-113-G), Carolina Water Service Co. (Docket No. 2006-87-WS), Tega Cay Water Company (Docket No. 2006-97-WS), United Utilities Companies, Inc. Company (Docket No. 2006-107-WS).

**Missouri:** Dr. Woolridge prepared testimony for the Department of Energy in Missouri: Kansas City Power & Light Company (CASE NO. ER-2006-0314).

**Kentucky:** Dr. Woolridge prepared testimony for the Office of Attorney General in Kentucky: Kentucky-American Water Company (Case No. 2004-00103), Union Heat, Light, and Power Company (Case No. 2004-00042), Kentucky Power Company (Case No. 2005-00341), Union Heat, Light, and Power Company (Case No. 2006-00172),

**Washington, D.C.:** Dr. Woolridge prepared testimony for the Office of the People's Counsel in

the District of Columbia: Potomac Electric Power Company (Formal Case No. 939).

**Washington:** Dr. Woolridge consulted with trial staff of the Washington Utilities and Transportation Commission on the following cases: Puget Energy Corp. (Docket Nos. UE-011570 and UG-011571); and Avista Corporation (Docket No. UE-011514).

**Kansas:** Dr. Woolridge prepared testimony on behalf of the Kansas Citizens' Utility Ratepayer Board Utilities in the following cases: Western Resources Inc. (Docket No. 01-WSRE-949-GIE), UtiliCorp (Docket No. 02-UTCG701-CIG), and Westar Energy, Inc. (Docket No. 05-WSEE-981-RTS).

**FERC:** Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Federal Energy Regulatory Commission: National Fuel Gas Supply Corporation (RP-92-73-000) and Columbia Gulf Transmission Company (RP97-52-000).

**Vermont:** Dr. Woolridge prepared testimony for the Department of Public Service in the Central Vermont Public Service (Docket No. 6988) and Vermont Gas Systems, Inc. (Docket No. 7160).