

STATE OF NEW HAMPSHIRE

062 31  
TDD Access: Relay NH 1-800-735-2964  
Tel. (603) 271-1172  
Website: www.oca.nh.gov

CONSUMER ADVOCATE  
Susan W. Chamberlin, Esq.

ASSISTANT CONSUMER ADVOCATE  
Rorie E.P. Hollenberg, Esq.



OFFICE OF CONSUMER ADVOCATE  
21 S. Fruit St., Suite 18  
Concord, NH 03301-2429

February 22, 2013

The Honorable Mary Jane Wallner, Chairman  
Fiscal Committee of the General Court  
State House  
Concord, NH 03301

*J. Patterson*  
Approved by Fiscal Committee 3/8/13  
Date

Her Excellency, Governor Margaret Wood Hassan  
and the Honorable Council  
State House  
Concord, NH 03301

**REQUESTED ACTION**

1. Pursuant to RSA 363:28 authorize the Office of the Consumer Advocate (OCA) to employ experts for assistance to complete its participation in the New Hampshire Public Utilities Commission (NHPUC) docket DE 11-250, Re Public Service Company of New Hampshire (PSNH), Investigation of Scrubber Costs and Cost Recovery.
2. Authorize the OCA to amend a contract for professional services with Exeter Associates, Inc. (Vendor #226093), by increasing the contract amount by \$39,500.00 from \$30,000.00 to \$69,500.00 and extending the expiration date of the contract from June 30, 2013 to December 31, 2013, to permit the OCA to complete its participation in the New Hampshire Public Utilities Commission (NHPUC) docket DE 11-250, Re Public Service Company of New Hampshire (PSNH), Investigation of Scrubber Costs and Cost Recovery. The original contract was approved by Governor and Executive Council on May 9, 2012, Item Number 51.

Funds will be available as follows with the authority to adjust encumbrances in each of the State Fiscal years through the Budget Office, if needed and justified:

02-81-81-812010-33470000 Special Assessment – Exeter Associates

	<u>FY 2013</u>	<u>FY 2014</u>	<u>Total</u>
02-81-81-812010-33470000-046-500464 Gen Consultants – Non-Benefit	\$29,000.00	\$10,500.00	\$39,500.00

G&C 02/20/2013  
Initials *J.C.*  
Date *2/22/13*  
Page 1 of 3

## EXPLANATION

The OCA is requesting this action pursuant to RSA 363:28, III which states:

The consumer advocate shall have authority to contract for outside consultants within the limits of funds available to the office. With the approval of the fiscal committee of the general court and the governor and council, the office of the consumer advocate may employ experts to assist it in proceedings before the public utilities commission, and may pay them reasonable compensation. The public utilities commission shall charge a special assessment for any such amounts against any utility participating in such proceedings and shall provide for the timely recovery of such amounts for the affected utility.

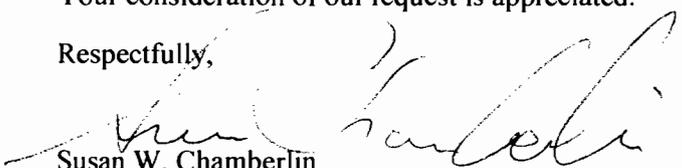
On May 9, 2012 the OCA entered into a contract for services with Exeter Associates in the amount of \$30,000 (\$7,500 in FY12 – ending 6/30/12; and \$22,500 in FY13 – 7/1/12 through 6/30/13). To date, the OCA has spent \$7,500 in FY12 and \$7,500 in FY13. Consistent with the scope of the original contract, which included assistance in several utility petitions before the NHPUC, Exeter Associates assisted the OCA in the initial phase of a proceeding to investigate the prudence of PSNH's \$450 million dollar investment in its Merrimack Station electric generation plant, DE 11-250. At this point in the proceeding, the opportunity remains for the OCA, through Exeter Associates, to file testimony and defend its position at a merits hearing. Exeter Associates estimates that such assistance will cost approximately \$39,500, which is \$39,500 more than the original contract authorized.

Consequently, the OCA requests approval of a contract amendment, to increase the cost limitation of its original contract with Exeter Associates by an additional \$39,500, and to extend the time period of the contract by an additional 6 months. The additional funds will be used to present and support testimony on the prudence of PSNH's costs. By law, such costs, if approved by the PUC, are recovered from default electric service customers the majority of which are residential customers. RSA 369-B:3, IV(b)(1)(A).

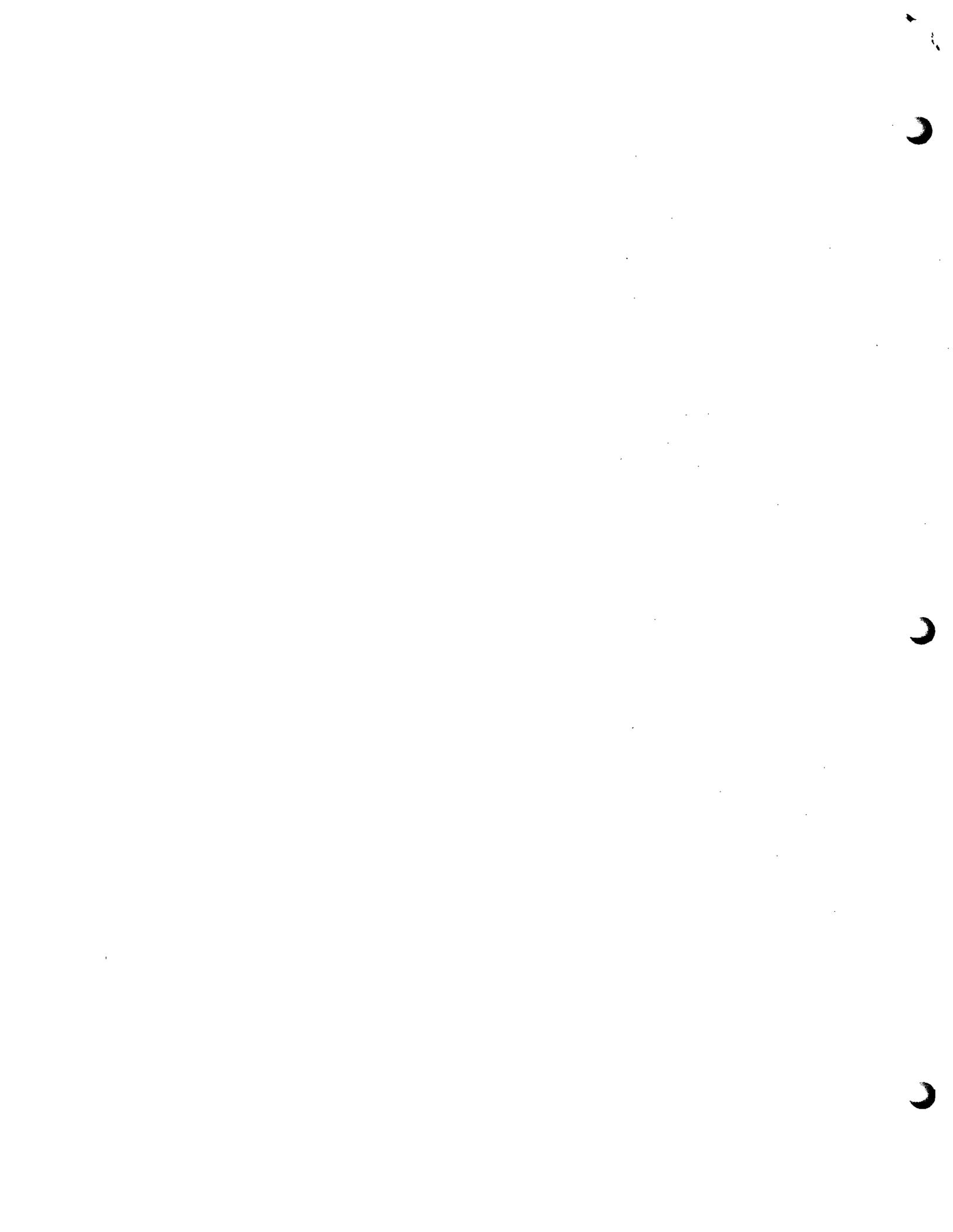
It is efficient and cost effective to proceed with an amendment to Exeter Associates's existing contract rather than through a new solicitation of bids. The existing contract with the OCA was the product of an open, competitive solicitation process. Exeter Associates assisted the OCA in the first half of the scrubber proceeding, and, based upon this work as well as its prior experience in other jurisdictions, they are well qualified to evaluate the prudence of the scrubber costs. They are also currently assisting the OCA in another PSNH docket, DE 11-216, which concerns the migration of PSNH customers and the resulting decrease in the number of PSNH energy service customers from whom to recover the costs of the scrubber. Consequently, they are uniquely situated to assist the OCA in developing a consistent and cohesive response to all of the circumstances currently facing PSNH in terms of the recovery of its prudent scrubber costs. A new consultant may also charge the OCA additional costs for familiarizing itself with the case. For all these reasons, the contract amendment with Exeter accomplishes the OCA's objective of effective advocacy in an efficient and economic manner.

Your consideration of our request is appreciated.

Respectfully,

  
Susan W. Chamberlin  
Consumer Advocate

Enclosures:   Amendment to Professional Services Contract  
                  Certificate of Authority  
                  Exhibit A: Proposed Scope of Services  
                  Exhibit B: Payment Terms  
                  Exhibit C: Special Provisions  
                  Original Agreement and Enclosures as Submitted April 26, 2012



**AMENDMENT TO  
PROFESSIONAL SERVICES CONTRACT**

Now comes the Office of Consumer Advocates, hereinafter "the Agency", and Exeter Associates, hereinafter "the Contractor," and, pursuant to an agreement between the parties which was approved by Governor and Council on May 9, 2012, hereby agree to modify same as follows:

1. The Price Limitation in Item 1.8 is hereby increased by \$39, 500, from \$30,000 to \$69,500 effective upon Governor and Council approval.
2. Item 1.7 of said contract is hereby modified such that the completion date is changed from June 30, 2013 to December 31, 2013.
3. All other provisions of the contract remain in effect.

This modification of an existing agreement is hereby incorporated by reference to the existing agreement by the parties and must be attached to said agreement.

IN WITNESS WHEREOF, the parties hereto have set their hands as indicated below:

EXETER ASSOCIATES, INC.

By: Thomas S. Catlin  
Thomas S. Catlin, Vice President

STATE OF MARYLAND  
County of Prince George's

On this the 4 day of January, 2013, before the undersigned officer, personally appeared Thomas S. Catlin and acknowledged that he executed this document in the capacity indicated. In witness whereof I hereto set my hand and official seal.

Robert M Adams  
Notary Public/Justice of the Peace

THE STATE OF NEW HAMPSHIRE  
Office of Consumer Advocate

By: Susan W. Chamberlin  
Susan W. Chamberlin, Consumer Advocate

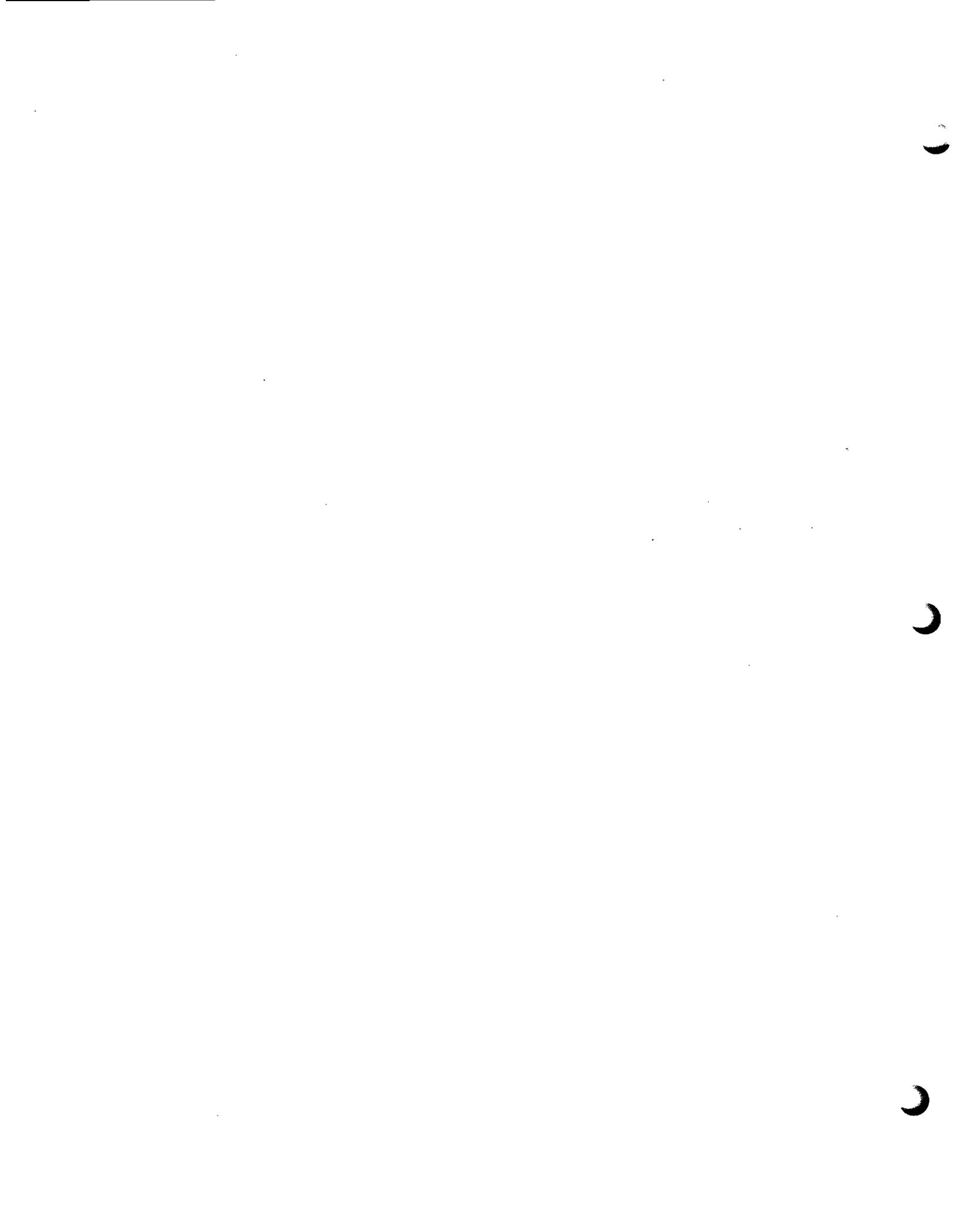
STATE OF NEW HAMPSHIRE  
County of Merrimack

On this the 8 day of January, 2013 before me personally appeared, Susan W. Chamberlin who acknowledged herself to be the individual who executed the forgoing instrument for the purpose therein contained. In witness whereof I hereto set my hand and official seal.

Christina Martin  
Notary Public/Justice of the Peace Expires 6-18-2016

Approved as to form, substance and execution by Attorney General this 23rd day of January 2013.

By: [Signature]



**CERTIFICATE OF AUTHORITY/VOTE**

(Corporation with Notary Seal)

1. Dwight D. Etheridge, do hereby certify that:  
(Name of Clerk of the Corporation, cannot be the one who signed the contract)

1. I am a duly elected Clerk of Exeter Associates, Inc.  
(The Corporation)

2. The following are true copies of two resolutions duly adopted at a meeting of the Board of Directors of the Corporation duly held on 06/24/2011.  
(Date given authority)

RESOLVED: That this Corporation enter into a contract with the State of New Hampshire, acting through its Office of Consumer Advocate, for the provision of Consulting services.

RESOLVED: That the Thomas S Catlin  
(Title of one who signed the contract)

is hereby authorized on behalf of this Corporation to enter into the said contract with the State and to execute any and all documents, agreements and other instruments, and any amendments, revisions, or modifications thereto, as he/she may deem necessary, desirable or appropriate.

3. The forgoing resolutions have not been amended or revoked, and remain in full force and effect as of 01/04/13.  
(Date Contract Signed)

4. Thomas S Catlin (is/are) the duly elected Vice President  
(Name of Contact Signatory) (Title of Contract Signatory)

of the Corporation.

Dwight D. Etheridge  
(Signature of the Clerk of the Corporation)

STATE OF MD  
County of PG

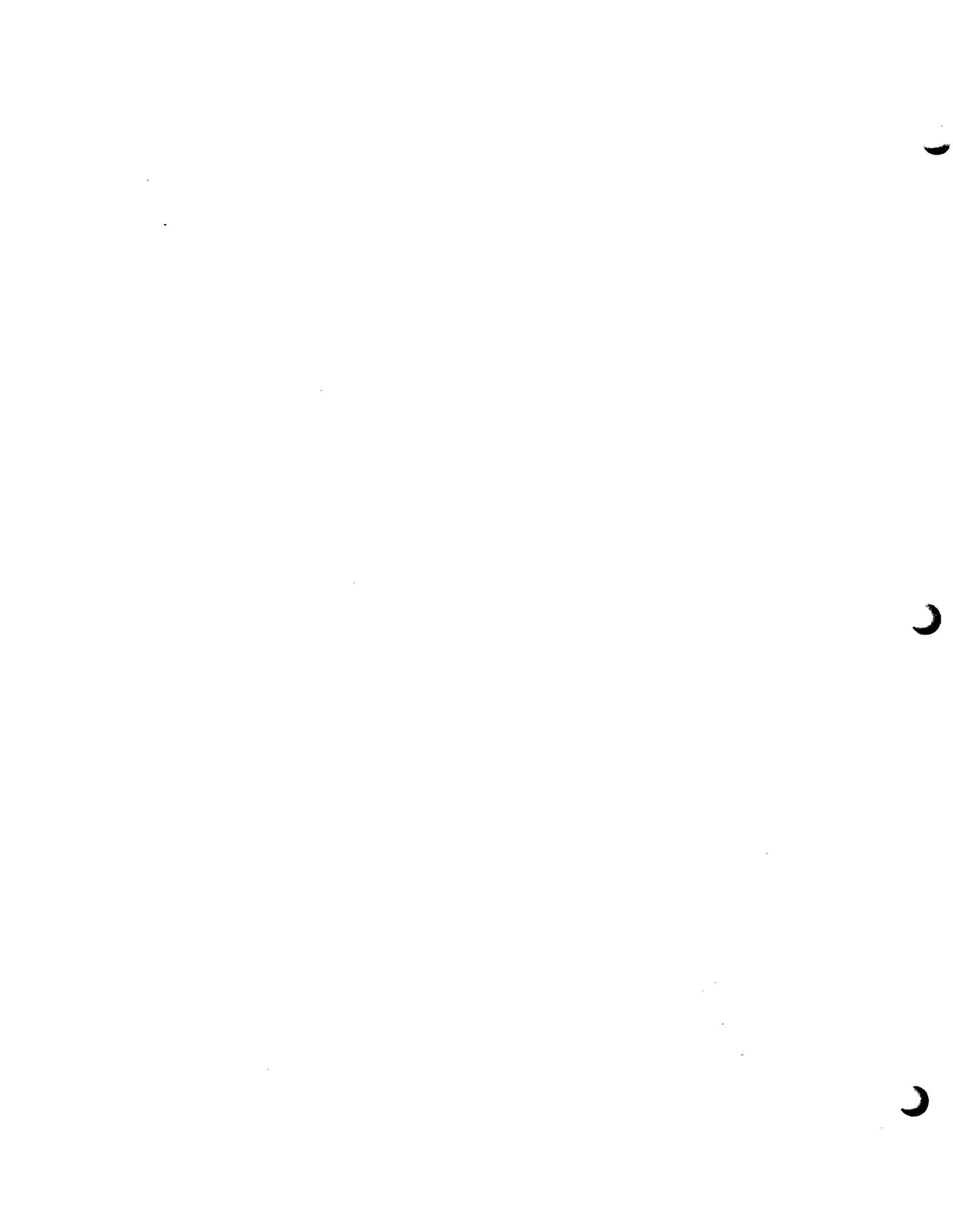
The foregoing instrument was acknowledged before me this 23<sup>rd</sup> day of January, 2013, by Dwight D Etheridge  
(Name of person signing above, Clerk of the Corporation)

(NOTARY SEAL)

Deborah M Adams  
Notary Public / Justice of the Peace

Commission Expires: 2/2015

DEBORAH M ADAMS  
Notary Public-Maryland  
Prince George's County  
My Commission Expires  
2/2015



**Scope of Services**

Exeter Associates's original contract, approved by Governor and Council on May 9, 2012, Item Number 51, included assistance with this proceeding. Consistent with the scope of the original contract, Exeter Associate has assisted the OCA in the initial phase of this proceeding opened by the PUC to investigate the prudence of PSNH's \$450 million dollar investment in its Merrimack Station electric generation plant, DE 11-250. At this point in the proceeding, the opportunity remains for the OCA, through Exeter Associates, to file testimony and defend its position at a merits hearing.

The work on this project will include, but not be limited to, frequent consultation with OCA staff, participation in the discovery process (including assisting with the preparation and analysis of discovery), analyzing data, preparing for and attending meetings and technical conferences, preparing testimony and supporting schedules and workpapers (including rebuttal testimony, if required), responding to discovery requests, preparing for and attending hearings, assisting in the preparation of settlement agreements if appropriate, assistance with pleadings, and providing other assistance as required by the pending docket.



**PAYMENT TERMS**

There are no limitations on the number of hours per month Exeter Associates, Inc. is available. Invoices will be based on actual time expended to perform all work required by the OCA, from contract approval through December 31, 2013, the total not-to-exceed price is \$39,500.

**Personnel Hourly Rates:**

<b>Name</b>	<b>Position</b>	<b>Specialization</b>	<b>Hourly Rate</b>
Thomas S. Catlin	Principal/Senior Analyst	Electric, Gas, and Water/Regulatory Policy & Accounting, Revenue Requirement	\$205.00
Matthew L. Kahal	Consultant/Senior Economist	Electric and Gas/Economics, POLR/POR, and Rate of Return	\$205.00
Dwight D. Etheridge	Principal/Senior Analyst	Electric/Regulatory Policy, Economics, and Transmission Issues	\$190.00
Steven L. Estomin	Principal/Senior Economist	Electric and Gas/Economics, Load Forecasting, and POLR Issues	\$195.00
Jerome D. Mierzwa	Principal/Senior Analyst	Gas and Water/Regulatory Policy & Analysis, Cost Allocation/ Rate Design	\$170.00
Kevin L. Porter	Principal/Senior Economist	Electric and Renewables/Economics	\$170.00
Christina R. Mudd	Principal/Senior Analyst	Regulatory Policy/Green House Gas, Energy Efficiency, and Smart Meter	\$150.00
Emma L. Nicholson	Senior Economist	Electric/Economics, Cost Allocation/Rate Design	\$130.00
Sari A. Fink	Economist	General, and Rate Design	\$100.00
Jennifer L. Rogers	Economist	General	\$80.00
Krista M. Ozarowski	Research Assistant	General	\$70.00
Michael T. Buckley	Research Assistant	General	\$70.00

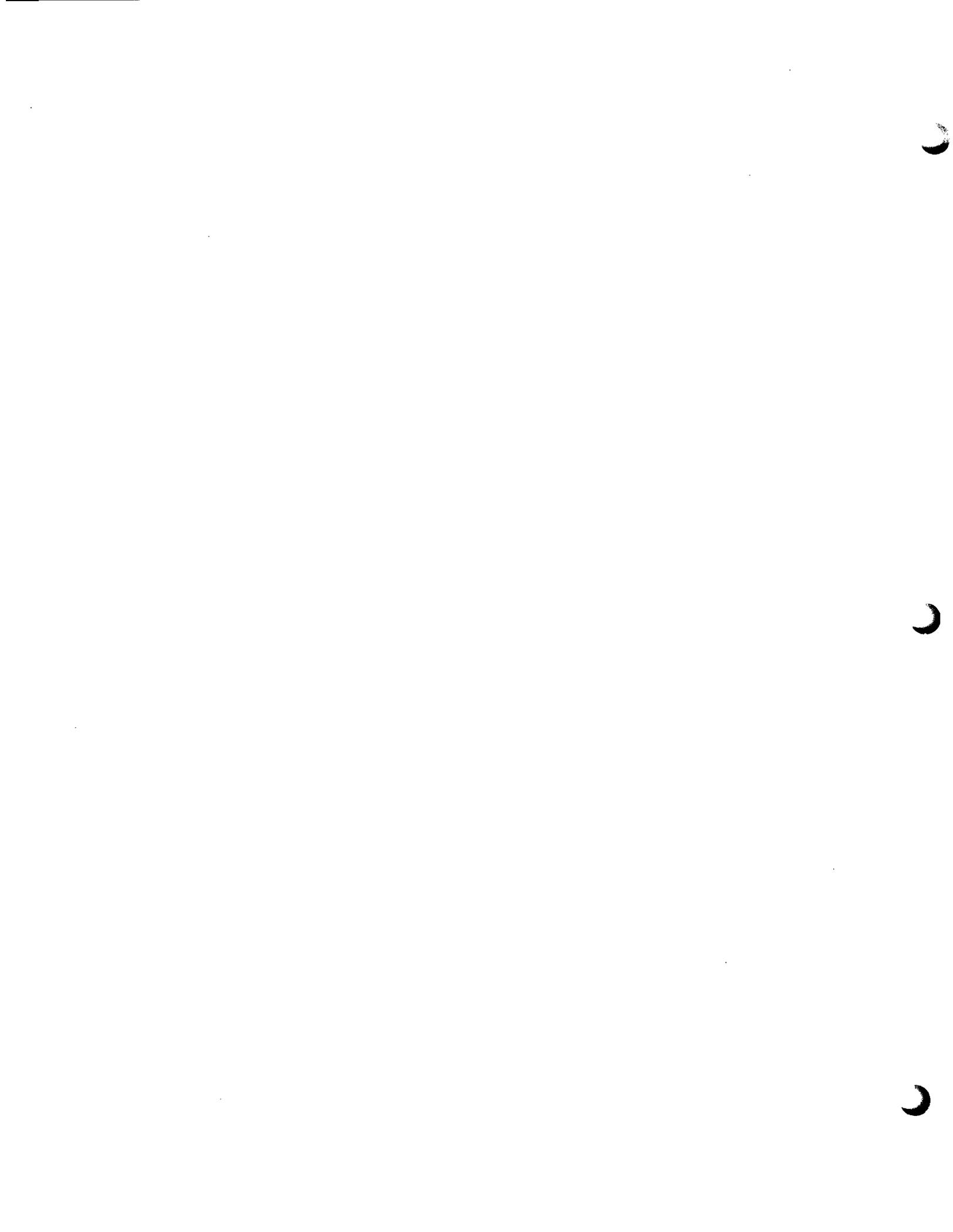
**Estimated Travel Expenses:**

Office of Consumer Advocate  
Exhibit B

Expense	Estimated Cost
Roundtrip Flight BWI to MHT	\$375.00
Lodging (1 night, 2012 per diem rate)	\$89.00
Meals (1 day, 2012 per diem rate)	\$46.00
Car Rental (per day)	\$40.00

**SPECIAL PROVISIONS**

No special provisions are needed.





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
9/13/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Welch, Graham & Ogden Ins., Inc. 7723 Ashton Avenue Manassas VA 20109	<b>CONTACT NAME:</b> Cheryl Hohing, ACSR <b>PHONE (A/C No. Ext):</b> (703) 530-1300 <b>FAX (A/C No.):</b> (703) 530-9994 <b>E-MAIL ADDRESS:</b> chohing@wgoins.com	
	<b>INSURER(S) AFFORDING COVERAGE</b>	
<b>INSURED</b> Exeter Associates, Inc. 10480 Little Patuxent Pkwy Suite 300 Columbia MD 21044	<b>INSURER A:</b> Peerless Insurance Co	
	<b>INSURER B:</b>	
	<b>INSURER C:</b>	
	<b>INSURER D:</b>	
	<b>INSURER E:</b>	
	<b>INSURER F:</b>	

**COVERAGES** CERTIFICATE NUMBER: 12-13 GL/Auto/WC/Umb REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CO NDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL. SUBR. INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC		CBP9515762	9/28/2012	9/28/2013	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 15,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS		CBP9515762	9/28/2012	9/28/2013	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0		CU8482475	9/28/2012	9/28/2013	EACH OCCURRENCE \$ 4,000,000 AGGREGATE \$ 4,000,000
A	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	WC9516762	9/28/2012	9/28/2013	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

<b>CERTIFICATE HOLDER</b>  Office of Consumer Advocate 21 S. Fruit Street, Ste 18 Concord, NH 03301	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	<b>AUTHORIZED REPRESENTATIVE</b> C Hohing, ACSR/CHC <i>Cheryl A. Hohing</i>





ACTING CONSUMER ADVOCATE  
Rorie E.P. Hollenberg, Esq.

OFFICE OF CONSUMER ADVOCATE

21 S. Fruit St., Suite 18  
Concord, NH 03301-2429

April 26, 2012

His Excellency Governor John H. Lynch  
And the Honorable Council  
State House  
Concord, NH 03301

**REQUESTED ACTION**

Authorize the Office of the Consumer Advocate (OCA) to enter into a contract with Exeter Associates, Inc. (vc # 226093) of Columbia, Maryland (Exeter), in an amount not to exceed \$30,000.00, to provide expert testimony, litigation assistance, training, and other services related to representing the interests of residential utility customers in dockets at the New Hampshire Public Utilities Commission (PUC), as described below, for the period from Governor and Executive Council approval through June 30, 2013. Funds are provided 100% through the public utility assessment pursuant to RSA 363-A:1.

Funding is available in account Consumer Advocate as follows, with the authority to adjust encumbrances in each of the State fiscal years through the Budget Office if needed and justified:

**02-81-81-812010-28160000 Public Utilities Commission – Office of Consumer Advocate**

	<u>FY 2012</u>	<u>FY 2013</u>
010-081-28160000-233-500769 Litigation	\$14,000.00	\$16,000.00

### EXPLANATION

The OCA is a small agency with five full-time employees (although the Consumer Advocate position is currently vacant), and we participate in dozens of legal proceedings at the PUC each year. By necessity, the OCA utilizes outside experts in the area of public utility operation and regulation to fulfill its statutory mandate of residential ratepayer advocacy and our approved budget includes limited funds for this purpose.

On February 7, 2012, the OCA issued a request for proposals (RFP) (Exhibit D) seeking expert assistance related to its participation in PUC dockets involving natural gas, electric, water, and telecommunications utilities. On March 7, 2012, the Governor and Executive Council considered and approved one contract arising from that RFP, between the OCA and Scott J. Rubin. The contract with Exeter, for which the OCA now seeks approval, expands the scope of the expertise available to the OCA through June 2013.

Specifically, Exeter offers a team of experienced professionals with extensive experience in the areas of economics and public utility regulation. For years, Exeter has worked regularly with the OCA's counterpart in Maine, the Office of Public Advocate, as well as with public utilities commission staffs, other consumer advocates, and federal and state government clients. Exeter's team possesses knowledge of and experience with the regulation of water, gas and electric utilities. Among other assistance, Exeter could help the OCA in proceedings at the PUC involving issues related to electric utility restructuring, electric industry competition, electric customer migration and the prudence of investments in electric utility plant.

Exeter Associate's assistance to the OCA will include, but not be limited to:

- Review and analysis of filings, focusing on the impacts of such filings on residential customers;
- Assistance in the preparation, review, and analysis of materials in PUC dockets;
- Assistance with hearing preparation including drafting questions for cross examination;
- Attendance at technical sessions, settlement conferences and/or hearings as needed to assist the OCA;
- Assistance with the preparation of legal pleadings, including motions to compel responses to discovery requests and post-hearing briefs; and
- Other assistance as needed.

The OCA is currently a party to many cases pending at the Commission for which we may require assistance, including but not limited to:

DT 07-011	FairPoint Purchase of Verizon's Assets; Service Quality Penalties
DE 08-103	Investigation of PSNH Installation of Scrubber Technology at Merrimack Station
DE 10-188	CORE Energy Efficiency Programs
DE 11-105	Unitil Petition for Adjustment to Certain Account Balances

DE 11-215	PSNH 2012 Energy Service Rate
DE 11-216	PSNH Alternative Default Service Rate Proposal
DE 11-250	PSNH Investigation of Scrubber Costs and Cost Recovery
DT 11-248	FairPoint Municipal Property Tax Surcharge
DG 12-001	National Grid Excess Capacity
DW 12-085	Aquarion Water Company Rate Case

We expect that there will be several other cases filed by utilities and others in the coming months for which the OCA will also require expert assistance.

### **RFP Process and Selection**

The OCA provided the RFP to thirteen consulting firms that work in the field of utility regulation, many which were recommended by other Consumer Advocate offices around the country. The consultants who received the RFP are listed in Exhibit E. The OCA also posted the RFP on our website and published a legal notice in the Union Leader. Five firms responded with proposals, three of which met the requirements of the RFP: Scott J. Rubin, Exeter Associates, Inc., and Backus, Meyer & Branch, LLP. Exeter Associates, Inc. proposed a competitive hourly rate, access to a wide range of experts on utility issues, and negotiated a not-to-exceed price of \$30,000.00 over the proposed 21 months of the contract. Staff at Exeter Associates, Inc. have significant experience in a wide range of issues related to the utility industry, including rate making, prudence review, and mergers and acquisitions, and have represented consumer advocates on a wide range of issues. As a result, the OCA chose Exeter Associates, Inc. as one of two winning bidders. Information about Exeter Associates, Inc. is included in Exhibit F.

### **Terms of Payment**

Payment will be made pursuant to Exhibit B. Funds are provided 100% through the public utility assessment.

The Attorney General's Office has reviewed and approved this contract as to form, substance and execution.

Thank you for your consideration. Please do not hesitate to contact me if you have any questions.

Respectfully submitted,



Rorie E. P. Hollenberg, Esq.  
Acting Consumer Advocate

Enclosures: General Provisions Agreement, P-37  
Certificate of Good Standing  
Certificate of Insurance  
Exhibit A – Scope of Services  
Exhibit B – Method of Payment  
Exhibit C – Special Provisions  
Exhibit D – Request for Proposal  
Exhibit E – Consultants Contacted  
Exhibit F – Vitae  
Bid Summary

Subject:

**AGREEMENT**

The State of New Hampshire and the Contractor hereby mutually agree as follows:

**GENERAL PROVISIONS**

**1. IDENTIFICATION.**

1.1 State Agency Name NH Office of Consumer Advocate		1.2 State Agency Address 21 S. Fruit Street, Ste 12, Concord, NH 03301	
1.3 Contractor Name Exeter Associates, Inc.		1.4 Contractor Address 10480 Little Patuxent Parkway, Ste 300, Columbia, MD 21044	
1.5 Contractor Phone Number 410-992-7500	1.6 Account Number 226093	1.7 Completion Date 6/30/13	1.8 Price Limitation 30,000
1.9 Contracting Officer for State Agency Rorie E.P. Hollenberg		1.10 State Agency Telephone Number 603-271-1172	
1.11 Contractor Signature <i>Thomas S. Catlin</i>		1.12 Name and Title of Contractor Signatory Thomas S. Catlin	
1.13 Acknowledgement: State of MD, County of Prince George's On 2-27-12, before the undersigned officer, personally appeared the person identified in block 1.12, or satisfactorily proven to be the person whose name is signed in block 1.11, and acknowledged that s/he executed this document in the capacity indicated in block 1.12.			
1.13.1 Signature of Notary Public or Justice of the Peace [Seal] <i>Deborah M Adams</i>			
1.13.2 Name and Title of Notary or Justice of the Peace Deborah M Adams; Business Manager			
1.14 State Agency Signature <i>Rorie E.P. Hollenberg</i>		1.15 Name and Title of State Agency Signatory Rorie E.P. Hollenberg, Assistant Consumer Advocate	
1.16 Approval by the N.H. Department of Administration, Division of Personnel (if applicable) By: _____ Director, On: _____			
1.17 Approval by the Attorney General (Form, Substance and Execution) By: <i>Asso M. G...</i> On: 4/20/2012			
1.18 Approval by the Governor and Executive Council By: _____ On: _____			

**2. EMPLOYMENT OF CONTRACTOR/SERVICES TO BE PERFORMED.** The State of New Hampshire, acting through the agency identified in block 1.1 ("State"), engages contractor identified in block 1.3 ("Contractor") to perform, and the Contractor shall perform, the work or sale of goods, or both, identified and more particularly described in the attached EXHIBIT A which is incorporated herein by reference ("Services").

**3. EFFECTIVE DATE/COMPLETION OF SERVICES.**

3.1 Notwithstanding any provision of this Agreement to the contrary, and subject to the approval of the Governor and Executive Council of the State of New Hampshire, this Agreement, and all obligations of the parties hereunder, shall not become effective until the date the Governor and Executive Council approve this Agreement ("Effective Date").

3.2 If the Contractor commences the Services prior to the Effective Date, all Services performed by the Contractor prior to the Effective Date shall be performed at the sole risk of the Contractor, and in the event that this Agreement does not become effective, the State shall have no liability to the Contractor, including without limitation, any obligation to pay the Contractor for any costs incurred or Services performed. Contractor must complete all Services by the Completion Date specified in block 1.7.

**4. CONDITIONAL NATURE OF AGREEMENT.**

Notwithstanding any provision of this Agreement to the contrary, all obligations of the State hereunder, including, without limitation, the continuance of payments hereunder, are contingent upon the availability and continued appropriation of funds, and in no event shall the State be liable for any payments hereunder in excess of such available appropriated funds. In the event of a reduction or termination of appropriated funds, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to terminate this Agreement immediately upon giving the Contractor notice of such termination. The State shall not be required to transfer funds from any other account to the Account identified in block 1.6 in the event funds in that Account are reduced or unavailable.

**5. CONTRACT PRICE/PRICE LIMITATION/ PAYMENT.**

5.1 The contract price, method of payment, and terms of payment are identified and more particularly described in EXHIBIT B which is incorporated herein by reference.

5.2 The payment by the State of the contract price shall be the only and the complete reimbursement to the Contractor for all expenses, of whatever nature incurred by the Contractor in the performance hereof, and shall be the only and the complete compensation to the Contractor for the Services. The State shall have no liability to the Contractor other than the contract price.

5.3 The State reserves the right to offset from any amounts otherwise payable to the Contractor under this Agreement those liquidated amounts required or permitted by N.H. RSA 80:7 through RSA 80:7-c or any other provision of law.

5.4 Notwithstanding any provision in this Agreement to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made hereunder, exceed the Price Limitation set forth in block 1.8.

**6. COMPLIANCE BY CONTRACTOR WITH LAWS AND REGULATIONS/ EQUAL EMPLOYMENT OPPORTUNITY.**

6.1 In connection with the performance of the Services, the Contractor shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal opportunity laws. In addition, the Contractor shall comply with all applicable copyright laws.

6.2 During the term of this Agreement, the Contractor shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national origin and will take affirmative action to prevent such discrimination.

6.3 If this Agreement is funded in any part by monies of the United States, the Contractor shall comply with all the provisions of Executive Order No. 11246 ("Equal Employment Opportunity"), as supplemented by the regulations of the United States Department of Labor (41 C.F.R. Part 60), and with any rules, regulations and guidelines as the State of New Hampshire or the United States issue to implement these regulations. The Contractor further agrees to permit the State or United States access to any of the Contractor's books, records and accounts for the purpose of ascertaining compliance with all rules, regulations and orders, and the covenants, terms and conditions of this Agreement.

**7. PERSONNEL.**

7.1 The Contractor shall at its own expense provide all personnel necessary to perform the Services. The Contractor warrants that all personnel engaged in the Services shall be qualified to perform the Services, and shall be properly licensed and otherwise authorized to do so under all applicable laws.

7.2 Unless otherwise authorized in writing, during the term of this Agreement, and for a period of six (6) months after the Completion Date in block 1.7, the Contractor shall not hire, and shall not permit any subcontractor or other person, firm or corporation with whom it is engaged in a combined effort to perform the Services to hire, any person who is a State employee or official, who is materially involved in the procurement, administration or performance of this Agreement. This provision shall survive termination of this Agreement.

7.3 The Contracting Officer specified in block 1.9, or his or her successor, shall be the State's representative. In the event of any dispute concerning the interpretation of this Agreement, the Contracting Officer's decision shall be final for the State.

## 8. EVENT OF DEFAULT/REMEDIES.

8.1 Any one or more of the following acts or omissions of the Contractor shall constitute an event of default hereunder ("Event of Default");

8.1.1 failure to perform the Services satisfactorily or on schedule;

8.1.2 failure to submit any report required hereunder; and/or

8.1.3 failure to perform any other covenant, term or condition of this Agreement.

8.2 Upon the occurrence of any Event of Default, the State may take any one, or more, or all, of the following actions:

8.2.1 give the Contractor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) days from the date of the notice; and if the Event of Default is not timely remedied, terminate this Agreement, effective two (2) days after giving the Contractor notice of termination;

8.2.2 give the Contractor a written notice specifying the Event of Default and suspending all payments to be made under this Agreement and ordering that the portion of the contract price which would otherwise accrue to the Contractor during the period from the date of such notice until such time as the State determines that the Contractor has cured the Event of Default shall never be paid to the Contractor;

8.2.3 set off against any other obligations the State may owe to the Contractor any damages the State suffers by reason of any Event of Default; and/or

8.2.4 treat the Agreement as breached and pursue any of its remedies at law or in equity, or both.

## 9. DATA/ACCESS/CONFIDENTIALITY/PRESERVATION.

As used in this Agreement, the word "data" shall mean all information and things developed or obtained during the performance of, or acquired or developed by reason of, this Agreement, including, but not limited to, all studies, reports, files, formulae, surveys, maps, charts, sound recordings, video recordings, pictorial reproductions, drawings, analyses, graphic representations, computer programs, computer printouts, notes, letters, memoranda, papers, and documents, all whether finished or unfinished.

9.2 All data and any property which has been received from the State or purchased with funds provided for that purpose under this Agreement, shall be the property of the State, and shall be returned to the State upon demand or upon termination of this Agreement for any reason.

9.3 Confidentiality of data shall be governed by N.H. RSA chapter 91-A or other existing law. Disclosure of data requires prior written approval of the State.

**10. TERMINATION.** In the event of an early termination of this Agreement for any reason other than the completion of the Services, the Contractor shall deliver to the Contracting Officer, not later than fifteen (15) days after the date of termination, a report ("Termination Report") describing in detail all Services performed, and the contract price earned, to and including the date of termination. The form, subject matter, content, and number of copies of the Termination

Report shall be identical to those of any Final Report described in the attached EXHIBIT A.

**11. CONTRACTOR'S RELATION TO THE STATE.** In the performance of this Agreement the Contractor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Contractor nor any of its officers, employees, agents or members shall have authority to bind the State or receive any benefits, workers' compensation or other emoluments provided by the State to its employees.

**12. ASSIGNMENT/DELEGATION/SUBCONTRACTS.** The Contractor shall not assign, or otherwise transfer any interest in this Agreement without the prior written consent of the N.H. Department of Administrative Services. None of the Services shall be subcontracted by the Contractor without the prior written consent of the State.

**13. INDEMNIFICATION.** The Contractor shall defend, indemnify and hold harmless the State, its officers and employees, from and against any and all losses suffered by the State, its officers and employees, and any and all claims, liabilities or penalties asserted against the State, its officers and employees, by or on behalf of any person, on account of, based or resulting from, arising out of (or which may be claimed to arise out of) the acts or omissions of the Contractor. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant in paragraph 13 shall survive the termination of this Agreement.

## 14. INSURANCE.

14.1 The Contractor shall, at its sole expense, obtain and maintain in force, and shall require any subcontractor or assignee to obtain and maintain in force, the following insurance:

14.1.1 comprehensive general liability insurance against all claims of bodily injury, death or property damage, in amounts of not less than \$250,000 per claim and \$2,000,000 per occurrence; and

14.1.2 fire and extended coverage insurance covering all property subject to subparagraph 9.2 herein, in an amount not less than 80% of the whole replacement value of the property.

14.2 The policies described in subparagraph 14.1 herein shall be on policy forms and endorsements approved for use in the State of New Hampshire by the N.H. Department of Insurance, and issued by insurers licensed in the State of New Hampshire.

14.3 The Contractor shall furnish to the Contracting Officer identified in block 1.9, or his or her successor, a certificate(s) of insurance for all insurance required under this Agreement. Contractor shall also furnish to the Contracting Officer identified in block 1.9, or his or her successor, certificate(s) of insurance for all renewal(s) of insurance required under this Agreement no later than fifteen (15) days prior to the expiration date of each of the insurance policies. The certificate(s) of insurance and any renewals thereof shall be

attached and are incorporated herein by reference. Each certificate(s) of insurance shall contain a clause requiring the insurer to endeavor to provide the Contracting Officer identified in block 1.9, or his or her successor, no less than ten (10) days prior written notice of cancellation or modification of the policy.

**15. WORKERS' COMPENSATION.**

15.1 By signing this agreement, the Contractor agrees, certifies and warrants that the Contractor is in compliance with or exempt from, the requirements of N.H. RSA chapter 281-A ("*Workers' Compensation*").

15.2 To the extent the Contractor is subject to the requirements of N.H. RSA chapter 281-A, Contractor shall maintain, and require any subcontractor or assignee to secure and maintain, payment of Workers' Compensation in connection with activities which the person proposes to undertake pursuant to this Agreement. Contractor shall furnish the Contracting Officer identified in block 1.9, or his or her successor, proof of Workers' Compensation in the manner described in N.H. RSA chapter 281-A and any applicable renewal(s) thereof, which shall be attached and are incorporated herein by reference. The State shall not be responsible for payment of any Workers' Compensation premiums or for any other claim or benefit for Contractor, or any subcontractor or employee of Contractor, which might arise under applicable State of New Hampshire Workers' Compensation laws in connection with the performance of the Services under this Agreement.

**16. WAIVER OF BREACH.** No failure by the State to enforce any provisions hereof after any Event of Default shall be deemed a waiver of its rights with regard to that Event of Default, or any subsequent Event of Default. No express failure to enforce any Event of Default shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other Event of Default on the part of the Contractor.

**17. NOTICE.** Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given in blocks 1.2 and 1.4, herein.

**18. AMENDMENT.** This Agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver or discharge by the Governor and Executive Council of the State of New Hampshire.

**19. CONSTRUCTION OF AGREEMENT AND TERMS.**

This Agreement shall be construed in accordance with the laws of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns. The wording used in this Agreement is the wording chosen by the parties to express their mutual

intent, and no rule of construction shall be applied against or in favor of any party.

**20. THIRD PARTIES.** The parties hereto do not intend to benefit any third parties and this Agreement shall not be construed to confer any such benefit.

**21. HEADINGS.** The headings throughout the Agreement are for reference purposes only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

**22. SPECIAL PROVISIONS.** Additional provisions set forth in the attached EXHIBIT C are incorporated herein by reference.

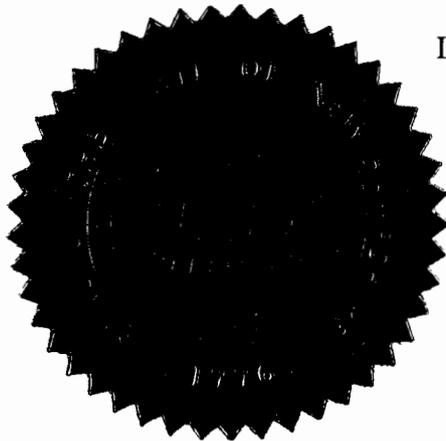
**23. SEVERABILITY.** In the event any of the provisions of this Agreement are held by a court of competent jurisdiction to be contrary to any state or federal law, the remaining provisions of this Agreement will remain in full force and effect.

**24. ENTIRE AGREEMENT.** This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire Agreement and understanding between the parties, and supersedes all prior Agreements and understandings relating hereto.

State of New Hampshire  
Department of State

CERTIFICATE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that EXETER ASSOCIATES, INC. doing business in New Hampshire as EXETER ASSOCIATES OF MARYLAND, a(n) Maryland corporation, is authorized to transact business in New Hampshire and qualified on September 30, 1999. I further certify that all fees and annual reports required by the Secretary of State's office have been received.



In TESTIMONY WHEREOF, I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this 18<sup>th</sup> day of April, A.D. 2012

A handwritten signature in black ink, appearing to read "William M. Gardner".

William M. Gardner  
Secretary of State





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
7/25/2011

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Welch, Graham & Ogden Ins., Inc. 7723 Ashton Avenue Manassas VA 20109		<b>CONTACT NAME:</b> Cheryl Hohing, ACSR <b>PHONE (A/C No. Ext):</b> (703) 530-1300 <b>FAX (A/C No.):</b> (703) 530-9994 <b>E-MAIL ADDRESS:</b> chohing@wgoins.com	
<b>INSURED</b> Exeter Associates, Inc. 10480 Little Patuxent Pkwy Suite 300 Columbia MD 21044		<b>INSURER(S) AFFORDING COVERAGE</b> INSURER A: Peerless Insurance Co INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	

# COPY

**COVERAGES** CERTIFICATE NUMBER: 11-12 GL/NOB/WC/Umb REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR (INSR) WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR		CBP9515762	9/28/2011	9/28/2012	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 15,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/POP AGG \$ 2,000,000
	GEM. AGGREGATE LIMIT APPLIES PER <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJ <input type="checkbox"/> LOC					
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS		CBP9515762	9/28/2011	9/28/2012	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB DED <input checked="" type="checkbox"/> RETENTION \$ 0	<input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE		CB8482475	9/28/2011	9/28/2012
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	WC9516762	9/28/2011	9/28/2012	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)**  
 Sustainable Energy Advantage, LLC (SEA) and New York State Energy Research and Development Authority (NYSERD) are Additional Insured with regard to the General Liability as required by written contract. Umbrella follows form.

<b>CERTIFICATE HOLDER</b> (508) 665-5850	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	<b>AUTHORIZED REPRESENTATIVE</b> Cheryl A. Hohing, ACSR

**STATE OF MARYLAND**  
**Department of Assessments and Taxation**

I, PAUL B. ANDERSON OF THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION OF THE STATE OF MARYLAND, DO HEREBY CERTIFY THAT THE DEPARTMENT, BY LAWS OF THE STATE, IS THE CUSTODIAN OF THE RECORDS OF THIS STATE RELATING TO THE FORFEITURE OR SUSPENSION OF CORPORATIONS, OR THE RIGHTS OF CORPORATIONS TO TRANSACT BUSINESS IN THIS STATE, AND THAT I AM THE PROPER OFFICER TO EXECUTE THIS CERTIFICATE.

I FURTHER CERTIFY THAT EXETER ASSOCIATES, INC., INCORPORATED JUNE 29, 1981, IS A CORPORATION DULY INCORPORATED AND EXISTING UNDER AND BY VIRTUE OF THE LAWS OF MARYLAND AND THE CORPORATION HAS FILED ALL ANNUAL REPORTS REQUIRED, HAS NO OUTSTANDING LATE FILING PENALTIES ON THOSE REPORTS, AND HAS A RESIDENT AGENT. THEREFORE, THE CORPORATION IS AT THE TIME OF THIS CERTIFICATE IN GOOD STANDING WITH THIS DEPARTMENT AND DULY AUTHORIZED TO EXERCISE ALL THE POWERS RECITED IN ITS CHARTER OR CERTIFICATE OF INCORPORATION, AND TO TRANSACT BUSINESS IN MARYLAND.

IN WITNESS WHEREOF, I HAVE HEREUNTO SUBSCRIBED MY SIGNATURE AND AFFIXED THE SEAL OF THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION OF MARYLAND AT BALTIMORE ON THIS MARCH 08, 2012.



Paul B. Anderson  
Charter Division



301 West Preston Street, Baltimore, Maryland 21201  
Telephone Balto. Metro (410) 767-1340 / Outside Balto. Metro (888) 246-5941  
MRS (Maryland Relay Service) (800) 735-2258 TT/Voice  
Fax (410) 333-7097

**Scope of Services**

Exeter Associates, Inc. proposes to provide expert witness, litigation support, training, and related services to assist the OCA with representing the interests of residential customers in a wide range of cases at the NH Public Utilities Commission (PUC). The scope of the proposal is to assist the OCA with the review of filings, the development of OCA positions, testimony, and pleadings as appropriate and as needed in cases.

The work on this project will include, but not be limited to, frequent consultation with OCA staff, participation in the discovery process (including assisting with the preparation and analysis of discovery), analyzing data, drafting memoranda, preparing for and attending meetings and technical conferences, preparing testimony and supporting schedules and workpapers (including rebuttal testimony, if required), responding to discovery requests, preparing for and attending hearings, assisting in the preparation of settlement agreements if appropriate, assistance with briefs and other pleadings, reviewing compliance filings, and providing other assistance in the transition to a new Consumer Advocate, including providing training if appropriate.



**PAYMENT TERMS**

There are no limitations on the number of hours per month Exeter Associates, Inc. is available. Invoices will be based on actual time expended to perform all work required by the OCA, from contract approval through June 30, 2013, the total not-to-exceed price is \$30,000.

**Personnel Hourly Rates:**

<b>Name</b>	<b>Position</b>	<b>Specialization</b>	<b>Hourly Rate</b>
Thomas S. Catlin	Principal/Senior Analyst	Electric, Gas, and Water/Regulatory Policy & Accounting, Revenue Requirement	\$205.00
Matthew L. Kahal	Consultant/Senior Economist	Electric and Gas/Economics, POLR/POR, and Rate of Return	\$205.00
Dwight D. Etheridge	Principal/Senior Analyst	Electric/Regulatory Policy, Economics, and Transmission Issues	\$190.00
Steven L. Estomin	Principal/Senior Economist	Electric and Gas/Economics, Load Forecasting, and POLR Issues	\$195.00
Jerome D. Mierzwa	Principal/Senior Analyst	Gas and Water/Regulatory Policy & Analysis, Cost Allocation/ Rate Design	\$170.00
Kevin L. Porter	Principal/Senior Economist	Electric and Renewables/Economics	\$170.00
Christina R. Mudd	Principal/Senior Analyst	Regulatory Policy/Green House Gas, Energy Efficiency, and Smart Meter	\$150.00
Emma L. Nicholson	Senior Economist	Electric/Economics, Cost Allocation/Rate Design	\$130.00
Sari A. Fink	Economist	General, and Rate Design	\$100.00
Jennifer L. Rogers	Economist	General	\$80.00
Krista M. Ozarowski	Research Assistant	General	\$70.00
Michael T. Buckley	Research Assistant	General	\$70.00

**Estimated Travel Expenses:**

Expense	Estimated Cost
Roundtrip Flight BWI to MHT	\$375.00
Lodging (1 night, 2012 per diem rate)	\$89.00
Meals (1 day, 2012 per diem rate)	\$46.00
Car Rental (per day)	\$40.00

**SPECIAL PROVISIONS**

No special provisions are needed.



APPENDIX A

RESUMES

## THOMAS S. CATLIN

Mr. Catlin is a principal and Vice-President of Exeter Associates, Inc. He is a senior utility rate analyst with a combination management and analytical background. His areas of specialization are revenue requirements and cost of service. Mr. Catlin is currently a member of the American Water Works Association (AWWA) Rates and Charges Subcommittee and the AWWA Water Utility Council's Technical Advisory Group on Economics.

Mr. Catlin has extensive experience in the review and analysis of the operations of public utilities. The emphasis of this work has been on utility rate regulation and has involved telephone, natural gas, electric and water companies. He is familiar with all aspects of utility ratemaking, the use of economic and engineering analytical techniques, rate base and operating income determination, income taxes, and utility accounting. Mr. Catlin has provided expert testimony before the Arizona, California, Colorado, Delaware, District of Columbia, Florida, Idaho, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Montana, Nevada, New Jersey, Ohio, Oklahoma, Pennsylvania, Rhode Island, Utah, Virginia and West Virginia public utility commissions as well as before the Federal Energy Regulatory Commission. This testimony has addressed all aspects of utility regulation including revenue requirements, cost of service, and rate design. Mr. Catlin has also been responsible for conducting cost of service, rate, and financial studies involving municipal and investor-owned water, wastewater, and storm drainage utilities.

### Education:

B.S. (Physics with minor in Math) - State University of New York at Stony Brook, 1974.

M.S. (Water Resources Engineering & Management) - Arizona State University, 1976.

Graduate courses in Accounting - Suffolk University, 1978-79.

### Previous Employment:

1978-1981     Utility Rates Specialist, Camp Dresser & McKee, Inc.

1977-1978     Engineer, Camp Dresser & McKee, Inc.

1976-1977     Engineer, Arthur Beard Engineers, Inc.

Professional Work:

Mr. Catlin has participated in rate cases and other regulatory proceedings for telephone, natural gas, electric and water utilities. This work has included the review, analysis and presentation of expert testimony regarding all aspects of revenue requirements including rate base, revenues, expenses, and income taxes. Mr. Catlin has also been extensively involved in analyzing alternatively regulatory mechanisms and regulatory restructuring issues, including the determination of stranded costs. Mr. Catlin's work has also included conducting and testifying on marginal and embedded cost studies and rate design. In the natural gas area, Mr. Catlin has been involved in conducting management audits and similar reviews of the gas supply and procurement policies and practices of natural gas distribution companies, as well as the review of PGA filings at both the state and federal level. In the telecommunications area, Mr. Catlin has conducted and testified with regard to cost of service and rate design studies and analyses for a variety of both monopoly and competitive services. In addition to providing testimony and assisting in the litigation of rate cases, Mr. Catlin has also been involved in negotiating settlements of a number of cases.

At Camp Dresser & McKee, Inc., Mr. Catlin was a project manager for utility rates, financial, and economic studies. He performed studies on approximately 15 municipal and private water, wastewater and storm drainage utilities. His assignments involved: determining the total costs of service; developing capital asset and depreciation bases; preparing cost allocation studies; evaluating alternative rate structures and designing rates; bill analyses; cost and revenue projections; preparing rate filings; and expert testimony.

Prior to transferring to the Camp Dresser & McKee's management service group, Mr. Catlin was an environmental engineer with CDM. He was involved in both project administration and design. Project administration and control responsibilities included budget preparation, labor and cost monitoring and forecasting, and contract preparation.

At Arthur Beard Engineers, Inc., Mr. Catlin served as project coordinator for a major environmental impact statement. He also served as project engineer for a county-wide water supply study and two utility valuation studies.

Publications and Presentations:

"Effects of Pricing Policy on Residential Water Use," Masters Degree research paper, Arizona State University, 1976.

"Water Rate Policy," presented to Water Resources Policy Committee of California Section of AWWA, 1977.

"Try Capacity Charges to Generate Water Utility Capital," American City and County, February 1981.

“Rate Structure Alternative for Utilities,” with John J. Gall, Public Works Magazine, June 1982.

“A First Look at the Effect of the Tax Reform Act of 1986 on Public Utility Ratemaking,” with Matthew I. Kahal, October 1986.

“State Implementation of the Tax Reform Act Changes,” presented to the National Association of State Utility Consumer Advocates, November 1986.

“Three Ratemaking Issues Arising from The Tax Reform Act of 1986,” presented to the National Association of State Utility Consumer Advocates, November 1987.

“SFAS No. 106 and Public Utility Ratemaking,” with Randy M. Allen, May 1991.

“Competition Issues in Rate Design” (for water utilities) with William M. Stout and Brian Kalcic. Presented to the Public Utility Law Conference of the Pennsylvania Bar Institute, October 1998.

“Designing Rates for the Small to Medium Size Public Utility,” presented at workshop on Fundamentals of Conservation Rates at AWWA CONSERV 1999 conference, February 1999.

“Use of the Cash and Utility Bases in Municipal Rate Setting,” prepared for workshop for the presentation of the fifth edition of AWWA Manual M1 at the AWWA Annual Conference and Exposition, June 2000.

“The Role of Consumer Advocate in Regulatory Proceedings,” presented at workshop on Rates and Charges and the Legal Environment at the AWWA Annual Conference and Exposition, June 2002.

“Rates for Small Systems-Special Considerations,” presented at workshop on Rates for Small Systems at the AWWA Annual Conference and Exposition, June 2003.

Reports:

“Letter Report Regarding Allocation of Costs Associated With Unaccounted For Water. Prepared for the City of Duluth, City of Hermantown, City of Proctor, and Rice Lake Township with David B. LaFrance and Janice A. Beecher, February 1997.

Prior Expert Testimony  
of Thomas S. Catlin

Before State and Federal Commissions:

Providence Water Supply Board (Rhode Island Public Utilities Commission, Docket 1513), February 1981. Testified on revenue requirements, cost of service and rate design on behalf of the Providence Water Supply Board.

Bell Telephone Company of Pennsylvania (Pennsylvania Public Utility Commission, Docket RID 1819), April & May 1982. Testified on cost analyses and rate design on behalf of the Office of Consumer Advocate.

Washington Gas Light Company (Maryland Public Service Commission, Case No. 7649), October 1982. Testified on cost of service issues on behalf of the Maryland People's Counsel.

Bell Telephone Company of Pennsylvania (Pennsylvania Public Utility Commission, Docket R-832316), August 1983. Testified on cost analyses and rate design on behalf of the Office of Consumer Advocate.

Chesapeake & Potomac Telephone Company (D.C. Public Service Commission, Formal Case No. 798), October 1983. Testified on cost of service on behalf of the Public Service Commission Staff.

Columbia Gas of Pennsylvania (Pennsylvania Public Utility Commission, Docket R-832493), April 1984. Testified on revenue, expense, and rate base issues on behalf of the Pennsylvania Office of Consumer Advocate.

Generic Investigation Concerning Intrastate Access Charges (Pennsylvania Public Utility Commission, Docket P-830452), August 1984. Testified on telephone access service costs and subscriber access charge issues on behalf of the Pennsylvania Office of Consumer Advocate.

Gulf Power Company (Florida Public Service Commission, Docket 840086-EI), August 1984. Testified on rate base issues on behalf of the Federal Executive Agencies.

Western Pennsylvania Water Company (Pennsylvania Public Utility Commission, Docket R-842621, et al.), August 1984. Testified on revenue, expense, rate base, and income tax issues on behalf of the Pennsylvania Office of Consumer Advocate.

ALLTEL Pennsylvania (Pennsylvania Public Utility Commission, Docket R-842710), January 1985. Testified on revenue, expense, rate base and income tax issues on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

Chesapeake & Potomac Telephone Company (D.C. Public Service Commission, Formal Case No. 827), March 1985. Testified on cost of service matters on behalf of the Office of People's Counsel.

Chesapeake & Potomac Telephone Company (Maryland Public Service Commission, Case No. 7851), March 1985. Testified on cost of service matters on behalf of the Public Service Commission Staff.

West Penn Power Company (Pennsylvania Public Utility Commission, Docket No. R-842632), March 1985. Testified on rate base, expense and income tax issues on behalf of the Office of Consumer Advocate.

New England Telephone and Telegraph Company (Rhode Island Public Utilities Commission, Consolidated Docket 1560(R), 1631, 1654), April 1985. Testified on category cost of service and service cost matters on behalf of the Division of Public Utilities and Carriers.

Chesapeake & Potomac Telephone Company (West Virginia Public Service Commission, Case No. 84-747-T-42T), June 1985. Testified on rate base and expense issues, impacts of divestiture, and separations issues on behalf of the Public Service Commission, Consumer Advocate Division.

Oklahoma Gas & Electric Company (Oklahoma Corporation Commission, Cause No. 29450), July 1985. Testified on rate base, operating income and income tax issues on behalf of the Attorney General.

Bristol County Water Company (Rhode Island Public Utilities Commission, Docket No. 1811), August 1985. Testified on rate base, operating income and income tax issues on behalf of the Division of Public Utilities and Carriers.

Continental Telephone Company of Pennsylvania and Quaker State Telephone Company (Pennsylvania Public Utility Commission, Docket Nos. R-850044 and R-850045, Consolidated hearings), September 1985. Testified on rate base, toll revenue, expense and income tax matters on behalf of the Office of Consumer Advocate.

Philadelphia Suburban Water Company (Pennsylvania Public Utility Commission, Docket No. R-850174), November 1985. Testified on rate base, revenue, expense and income tax issues on behalf of the Office of Consumer Advocate.

West Penn Power Company (Pennsylvania Public Utility Commission, Docket No. R-850220), January 1986. Testified on rate base and net operating income issues on behalf of the Office of Consumer Advocate.

Prior Expert Testimony

of Thomas S. Catlin

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission, Docket No. R-860296), March 1986. Testified regarding purchased gas costs and cost recovery on behalf of the Office of Consumer Advocate.

Idaho Power Company (Idaho Public Utilities Commission, Case No. U-1006-265), April 1986. Testified on rate base, operating expense, and income tax matters on behalf of the Federal Executive Agencies.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission, Docket No. R-850287), July 1986. Testified regarding rate base, revenue, expense, and income tax issues on behalf of the Office of Consumer Advocate.

Dauphin Consolidated Water Supply Company (Pennsylvania Public Utility Commission, Docket No. R-860350), July 7, 1986. Testified in rate base, operating revenue and expense, and income tax issues on behalf of the Office of Consumer Advocate.

Blackstone Valley Electric Company (Rhode Island Public Utilities Commission, Docket No. 1849), August 1986. Testified on rate base, revenue, expense and income tax issues on behalf of the Division of Public Utilities and Carriers.

Dayton Power and Light Company (Public Utilities Commission of Ohio, Case No. 86-17-GA-GCR), August 1986. Testified regarding audit of management and performance of gas purchasing policies and practices on behalf of the Public Utilities Commission of Ohio.

West Virginia Water Company (West Virginia Public Service Commission, Case No. 86-212-W-42T), October 1986. Testified on rate base and operating income issues on behalf of the Public Service Commission, Consumer Advocate Division. (Case settled prior to cross-examination.)

Kentucky West Virginia Gas Company (Federal Energy Regulatory Commission, Docket No. RP86-52-000), November 1986. Testified on elimination of the minimum bill and take or pay exposure on behalf of the Pennsylvania Office of Consumer Advocate.

Huntington Water Corporation (West Virginia Public Service Commission, Case No. 86-341-W-42T), December 1986. Testified on rate base and operating income issues on behalf of the Public Service Commission, Consumer Advocate Division. (Case settled prior to cross-examination.)

Louisiana Power and Light Company (Louisiana Public Service Commission, Docket No. 16945), December 1986. Testified on rate base, revenue, expense, income tax and phase-in issues on behalf of the Staff of the Commission.

Prior Expert Testimony

of Thomas S. Catlin

Mountain States Telephone and Telegraph Company (Colorado Public Utilities Commission, Docket No. 1720), December 1986. Testified on the measurement of dial tone or access line costs and separations procedures on behalf of the Colorado Office of Consumer Counsel.

Columbia Gas Transmission Corporation (Federal Energy Regulatory Commission, Docket No. RP86-168-000), April 1987. Testified on rate base, operating income, and income taxes on behalf of the Commonwealth of Pennsylvania Office of Consumer Advocate.

Transcontinental Gas Pipe Line Corporation (Federal Energy Regulatory Commission, Docket No. RP87-7-000), May 1987. Testified on appropriate regulatory treatment of surplus proceeds resulting from termination of pension plan on behalf of the Pennsylvania Office of Consumer Advocate.

Monongahela Power Company (West Virginia Public Service Commission, Case No. 86-524-E-SC), May 1987. Testified on rate base and operating income issues on behalf of the Public Service Commission, Consumer Advocate Division.

Atlantic City Sewerage Company (New Jersey Board of Public Utilities, Docket No. WO 8606654), June and August 1987. Presented testimony on behalf of Resorts International, Inc., addressing responsibility of Company to pay cost of extending facilities.

Newport Electric Corporation (Rhode Island Public Utilities Commission, Docket No. 1872), July 1987. Testified on rate base and operating income issues, including the effects of the Tax Reform Act of 1986 on behalf of the Division of Public Utilities and Carriers.

General Telephone of the South (West Virginia Public Service Commission, Case No. 86-870-T-42T), July 1987. Testified on rate base, operating income and jurisdictional separations issues on behalf of the Consumer Advocate Division of the Public Service Commission. (Case settled prior to cross-examination.)

Philadelphia Electric Company-Gas Operations (Pennsylvania Public Utility Commission, Docket No. R-870629), August 1987. Testified on operating income and income tax matters on behalf of the Office of Consumer Advocate.

West Penn Power Company (Pennsylvania Public Utility Commission, Docket No. R-850220 Reconsideration), August 1987. Testified on issue of retroactive ratemaking and revenue requirement effects of alternative excess capacity adjustments recommended by others on behalf of Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

Dauphin Consolidated Water Supply Company (Pennsylvania Public Utility Commission, Docket No. R-860350 Reconsideration), September 1987. Testified on recognition of proper balance of deferred income taxes collected from ratepayers on behalf of Pennsylvania Office of Consumer Advocate.

Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio Case No. 87-29-GA-GCR), October 1987. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to and accepted without cross-examination.)

GTE North, Inc. (Pennsylvania Public Utility Commission, Docket No. M-860105, F. 18), November 1987. Testified on effects of Tax Reform Act of 1986 on behalf of Pennsylvania Office of Consumer Advocate.

Panhandle Eastern Pipe Line Company (Federal Energy Regulatory Commission, Docket No. RP87-103-000), February 1988. Testified on rate base, operating income and income tax issues on behalf of Indiana Office of Utility Consumer Counselor.

Philadelphia Suburban Water Company (Pennsylvania Public Utility Commission, Docket No. R-870840), February 1988. Testified on revenue, expense, income tax, and rate base issues on behalf of the Pennsylvania Office of Consumer Advocate.

Sierra Pacific Power Company-Water Department (Nevada Public Service Commission, Docket No. 87-1226), April 1988. Testified on cost of service allocation on behalf of the Nevada Office of Consumer Advocate.

System Energy Resources, Inc. (Federal Energy Regulatory Commission Docket No. FA86-19-001), April 1988. Testified regarding cost of service tariff (formula rate) issues on behalf of the Louisiana Public Service Commission.

The Peoples Natural Gas Company (Pennsylvania Public Utilities Commission Docket No. R-880961), August 1988. Testified on revenue, expense and income tax issues on behalf of the Pennsylvania Office of Consumer Advocate.

South Central Bell Telephone Company (Kentucky Case No. 10105), August 1988. Testified with regard to South Central Bell's proposed incentive regulation plan on behalf of the Attorney General of the Commonwealth of Kentucky.

Louisiana Power and Light Company (Louisiana Public Service Commission Docket No. U-17906), September 1988. Testified on operating income and rate making policy issues on behalf of the Staff of the Commission.

Prior Expert Testimony  
of Thomas S. Catlin

National Gas and Oil Corporation (Public Utilities Commission of Ohio Case No. 88-22-GA-GCR), September 1988. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination).

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 88-24-GA-GCR), October 1988. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination).

Providence Gas Company (Rhode Island Public Utilities Commission Docket No. 1914), December 1988. Testified on operating income and regulatory policy issues on behalf of the Division of Public Utilities and Carriers.

Kentucky-West Virginia Gas Company (Federal Energy Regulatory Commission Docket No. RP86-52-000), February 1989. Testified on rate base and cost of service issues on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-881125), March 1989. Testified on purchased gas costs and take-or-pay cost recovery on behalf of the Pennsylvania Office of Consumer Advocate.

Chesapeake Utilities Corporation (Maryland Public Service Commission Case No. 8154), April 1989. Testified on take-or-pay cost recovery on behalf of Maryland People's Counsel.

Pennsylvania-American Water Company (Pennsylvania Public Utility Commission Docket No. R-891208), May 1989. Testified on cost allocation and rate design issues on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-891232), May 1989. Testified on purchased gas costs and take-or-pay cost recovery on behalf of the Pennsylvania Office of Consumer Advocate.

Maryland Natural Gas and Frederick Gas Company, Inc. (Maryland Public Service Commission Case Nos. 8153 and 8155), May 1989. Testified on take-or-pay cost recovery on behalf of Maryland People's Counsel.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-891218), July 1989. Testified on revenue, expense and income tax issues on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

The River Gas Company (Public Utilities Commission of Ohio Case No. 89-31-GA-GCR), August 1989. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination.)

Central Maine Power Company (Maine Public Utilities Commission Docket No. 89-68), August 1989. Testified on revenue, expense, rate base and income tax issues, as well as selection of proper test year on behalf of the Maine Public Advocate.

Public Service of Indiana, Inc. (Indiana Utility Regulatory Commission Cause No. 37414-S2), October 1989. Testified on rate base, net operating income, and accounting issues on behalf of the Indiana Utility Consumer Counselor.

National Fuel Gas Supply Corporation (Federal Energy Regulatory Commission Docket No. RP89-49-000), December 1989 and February 1990. Testified on rate base and cost of service issues on behalf of the Pennsylvania Office of Consumer Advocate.

System Energy Resources, Inc. (Federal Energy Regulatory Commission), February 1990. Testified on one-eighth formula working capital requirement on behalf of the Louisiana Public Service Commission.

Bangor Hydro-Electric Company (Maine Public Utilities Commission Docket No. 90-001), June 1990. Testified on rate base revenues, expenses, sales forecasts and attrition on behalf of the Maine Public Advocate.

Mountain Fuel Supply Company (Utah Public Service Commission Docket No. 89-057-15), July 1990. Co-sponsored testimony regarding natural gas procurement practices and policies.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-901670), July 1990. Testified on revenue, expense and income tax issues on behalf of the Pennsylvania Office of Consumer Advocate.

Sierra Pacific Power Company Water Department (Nevada Public Service Commission Docket No. 90-524), September 1990. Testified on class cost of service issues on behalf of the Nevada Office of Consumer Advocate.

Central Maine Power Company (Maine Public Utilities Commission Docket No 90-076), September 1990. Testified on test year rate base, revenue and expense issues and on attrition on behalf of the Maine Public Advocate.

Prior Expert Testimony

of Thomas S. Catlin

South Central Bell Telephone Company (Louisiana Public Service Commission Docket No. U-17949), October 1990. Testified on operating income issues and attrition on behalf of the Louisiana Public Service Commission.

System Energy Resources, Inc. (Federal Energy Regulatory Commission Docket No. ER89-678-000), November 1990. Testified on decommissioning funding issues on behalf of the Louisiana Public Service Commission.

Columbia Gas of Ohio (Public Utilities Commission of Ohio, Case No. 91-16-GA-GCR), November 1990. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination).

South Central Bell vs. Louisiana Public Service Commission (Nineteenth Judicial District Court, Parish of East Baton Rouge, Louisiana, Docket No. 333, 273), November 1990. Testified on overearnings of South Central Bell on behalf of the Louisiana Public Service Commission.

New Jersey Natural Gas Company (New Jersey Board of Public Utilities Docket No. GR90080786J), January 1991. Testified on cash working capital and storage inventory on behalf of the New Jersey Public Advocate.

Nevada Power Company (Nevada Public Service Commission Docket No. 90-1037), February 1991. Testified on deferred fuel cost and accounting issues on behalf of the U.S. Department of Energy.

City of Great Falls Wastewater Utility (Montana Public Service Commission Docket No. 90.10.66), March 1991. Testified on cost allocation issues on behalf of the U.S. Air Force.

City of Great Falls Water Utility (Montana Public Service Commission Docket No. 90.10.67), March 1991. Testified on cost allocation issues on behalf of the U.S. Air Force.

Duquesne Light Company, Metropolitan Edison Company and Pennsylvania Electric Company (Pennsylvania Public Utility Commission Docket Nos. P-900485, P-910502 and G-900240), May 1991. Testified on behalf of the Pennsylvania Office of Consumer Advocate regarding accounting and regulatory issues in regard to the reactivation of a generating station and the transfer/sale of assets.

Bangor Hydro Electric Company (Maine Public Utilities Commission Docket No. 91-010), June 1991. Testified on test year revenue, expense and rate base and attrition issues on behalf of the Maine Public Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

System Energy Resources, Inc. (Federal Energy Regulatory Commission Docket No. FA89-28-000), June 1991. Testified regarding proper accounting for fees associated with the sales of accounts receivable on behalf of the Louisiana Public Service Commission.

Wakefield Water Company (Rhode Island Public Utilities Commission Docket No. 2006), July 1991. Testified regarding revenue requirements, cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

UGI Corporation (Pennsylvania Public Utility Commission Docket No. R-911973), July 1991. Testified on purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Nevada Power Company (Nevada Public Service Commission Docket No. 91-5055), September 1991. Testified on rate base and net income issues on behalf of U.S. Department of Energy.

Arkansas Louisiana Gas Company (Louisiana Public Service Commission Docket No. U-19236), October 1991. Testified on rate adjustment mechanisms, private line replacement, rate design and postretirement benefits on behalf of the Staff of the Commission.

Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio, Case No. 91-16-GA-GCR), October 1991. Co-authored report on the audit of management and performance of gas purchasing on behalf of Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to and accepted without cross-examination.)

Sierra Pacific Power Company (Nevada Public Service Commission, Docket Nos. 91-7079, 91-7080 and 91-7081), November 1991. Testified on consolidated income taxes and construction work in progress on behalf of the Nevada Office of Consumer Advocate.

Sierra Pacific Power Company (Nevada Public Service Commission, Docket No. 91-7081), December 1991. Testified on water cost allocation and rate design issues on behalf of the Nevada Office of Consumer Advocate.

Louisiana Gas Service Company (Louisiana Public Service Commission, Docket No. U-19237), December 1991. Testified on test year net income, rate base and attrition issues on behalf of the Staff of the Commission.

Providence Water Supply Board (Rhode Island Public Utilities Commission, Docket No. 2022), January 1992. Testified on matters pertaining to a proposed surcharge on behalf of the Division of Public Utilities and Carriers.

Prior Expert Testimony  
of Thomas S. Catlin

South Jersey Gas Company (New Jersey Board of Regulatory Commissioners, Docket No. GR91071243J), January and February 1992. Testified on rate base, operating income, and income tax issues on behalf of New Jersey Rate Counsel.

Newport Water Division (Rhode Island Public Utilities Commission, Docket No. 2029), February 1992. Testified on cost allocation and rate design matters on behalf of the Division of Public Utilities and Carriers.

Equitable Gas Company (Pennsylvania Public Utility Commission, Docket No. R-00912164), April 1992. Testified on rate base and net operating income issues on behalf of the Pennsylvania Office of Consumer Advocate.

Mountain Fuel Supply Company (Utah Public Service Commission, Docket Nos. 91-057-11 & 15), May 1992. Testified on gas procurement and gas cost issues on behalf of the Utah Committee of Consumer Services.

Trans Louisiana Gas Company (Louisiana Public Service Commission, Docket No. U-19631) June 1992. Testified on rate adjustment mechanisms, rate design and postretirement benefits on behalf of the Staff of the Commission.

Artesian Water Company, Inc. (Delaware Public Service Commission, Docket No. 92-5), June 1992. Testified on cost allocation and rate design issues on behalf of the Staff of the Commission.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 2048), August 1992. Testified on revenue requirements, cost allocation policy and rate design issues on behalf of the Division of Public Utilities and Carriers.

US West Communications, Inc. (Utah Public Service Commission, Docket No. 92-049-05), August and October 1992. Testified on proper ratemaking treatment of postretirement benefits expense on behalf of Utah Committee of Consumer Services.

Dallas Water Company et al. (Pennsylvania Public Utility Commission, Docket No. R-00922326 et al.), September 1992. Testified on revenue requirements and rate design issues on behalf of the Pennsylvania Office of Consumer Advocate.

Generic Investigation into Treatment of Postretirement Benefits Expense (Utah Public Service Commission, Docket No. 92-999-04), October 1992. Testified on proper ratemaking treatment of postretirement benefits expense on behalf of Utah Committee of Consumer Services.

Prior Expert Testimony  
of Thomas S. Catlin

Commonwealth Gas Services, Inc. (Virginia Corporation Commission, Case No. PUE920037), October 1992. Testified on revenue, cash working capital, weather normalization and post in service carrying charges on behalf of the Division of Consumer Counsel of the Office of Attorney General.

Entergy Corporation and Gulf States Utilities (Louisiana Public Service Commission, Docket No. U-19904), November 1992. Testified on merger related issues on behalf of the Louisiana Public Service Commission Staff.

West Penn Power Company (Pennsylvania Public Utility Commission, Docket No. R-00922378), December 1992. Testified on rate base and net operating income issues on behalf of the Pennsylvania Office of Consumer Advocate.

Columbia Gas of Ohio (Public Utilities Commission of Ohio, Case No. 92-18-GA-GCR), January 1993. Coauthored report on the audit of management and performance of gas purchasing on behalf of Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to and accepted without cross-examination.)

Bossier Rural Electric Membership Cooperative (Louisiana Public Service Commission, Docket No. U-19944), February 1993. Testified on prudence standards applicable to utility decision making on behalf of the Staff of the Commission.

Consideration of Statement of Financial Accounting Standard No. 106 (Louisiana Public Service Commission, Docket No. U-20181), February 1993. Testified on regulatory issues related to adoption of SFAS No. 106 for ratemaking on behalf of the Staff of the Commission.

Philadelphia Suburban Water Company (Pennsylvania Public Utility Commission, Docket No. R-00922476), March 1993. Testified on rate base and net income issues on behalf of the Pennsylvania Office of Consumer Advocate.

Sierra Pacific Power Company Water Department (Nevada Public Service Commission, Docket No. 92-121022), April 1993. Testified on class cost of service and rate design on behalf of the Nevada Office of Consumer Advocate. (Case settled prior to cross examination.)

Central Maine Power Company (Maine Public Utilities Commission, Docket No. 92-345), May 1993. Testified on test year net income and rate base and attrition issues on behalf of the Staff of the Maine PUC.

Prior Expert Testimony  
of Thomas S. Catlin

Dauphin Consolidated Water Supply Company and General Waterworks of Pennsylvania, Inc. (Pennsylvania Public Utility Commission, Docket No. R-00932604), June 1993. Testified on rate base, income tax and class cost of service issues on behalf of the Pennsylvania Office of Consumer Advocate.

Kent County Water Authority (Rhode Island Public Utilities Commission, Docket No. 2098), July 1993. Testified on cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

National Fuel Gas Supply Corporation (Federal Energy Regulatory Commission, Docket No. RP92-73-000), July 1993. Testified on rate base and revenue requirement issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

City of Woonsocket Water Department (Rhode Island Public Utilities Commission, Docket No. 2099), July 1993. Testified on cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission, Docket No. R-00932548), July 1993. Testified on income and rate base issues on behalf of the Pennsylvania Office of Consumer Advocate.

Conestoga Telephone & Telegraph Company (Pennsylvania Public Utility Commission Docket No. I-00920015), September 1993. Testified on revenue expense and rate base issues as well as proper average schedule separations procedures on behalf of the Pennsylvania Office of Consumer Advocate.

The Ohio Gas Company (Public Utilities Commission of Ohio, Case No. 93-14-GA-GCR), October 1993. Co-authored report on the audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to and accepted without cross-examination.)

The Bell Telephone Company of Pennsylvania (Pennsylvania Public Utility Commission, Docket No. P-00930715), December 1993. Testified on historical and projected earnings levels and earnings monitoring in conjunction with alternative regulatory plan on behalf of the Pennsylvania Office of Consumer Advocate.

Pennsylvania-American Water Company (Pennsylvania Public Utility Commission, Docket No. R-00932670), February 1994. Testified on class cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

Philadelphia Suburban Water Company (Pennsylvania Public Utility Commission, Docket No. R-00932868), April 1994. Testified on class cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

Southwest Gas Corporation - Southern Arizona Division (Arizona Corporation Commission, Docket No. U-1551-93-272), May 1994. Testified on revenue and rate base issues on behalf of the Staff of the Arizona Corporation Commission. (Case settled prior to cross-examination)

Commonwealth Edison Company (Illinois Commerce Commission, Docket No. 94-0065), June 1994. Testified on nuclear decommissioning funding on behalf of the U.S. Department of Energy.

West Penn Power Company (Pennsylvania Public Utility Commission Docket R-00942986), July 1994. Testified on net income and rate base issues on behalf of the Pennsylvania Office of Consumer Advocate.

City of Bethlehem-Bureau of Water (Pennsylvania Public Utility Commission, Docket No. R-00943124), October 1994. Testified on cost allocation and rate design issues on behalf of the Pennsylvania Office of Consumer Advocate.

General Waterworks of Pennsylvania (Pennsylvania Public Utility Commission, Docket No. R-00943152), October 1994. Testified on cost allocation and rate design issues on behalf of the Pennsylvania Office of Consumer Advocate.

National Gas & Oil Corporation (Public Utilities Commission of Ohio, Case No. 94-221-GA-GCR), October 1994. Co-authored report on the audit of the management and performance of gas purchasing on behalf of Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without hearings.)

Trans Louisiana Gas Company (Louisiana Public Service Commission, Docket No. U-19997), November 1994. Testified on the costs properly included in the weighted average cost of gas of Louisiana Intrastate Gas Corporation and the purchased gas adjustment of Trans La on behalf of Staff of the Commission.

Tennessee Gas Pipeline Company (Federal Energy Regulatory Commission, Docket Nos. RP91-203-000 and RP92-132-000, Phase II-PCB Issues), December 1993. Testified on cost of PCB remediation in current dollars and percentage allowance applicable to claimed PCB costs on behalf of the Pennsylvania Office of Consumer Advocate and the Ohio Office of the Consumer's Counsel. (Case settled prior to cross-examination.)

Prior Expert Testimony

of Thomas S. Catlin

New England Telephone and Telegraph Company (Maine Public Utilities Commission, Docket Nos. 94-123 and 94-254), December 1994. Testified on Process Re-engineering (downsizing) costs and benefits and on attrition issues on behalf of the Maine Public Advocate.

Louisiana Power & Light Company (Louisiana Public Service Commission, Docket No. U-20925), February 1995. Testified on rate base and operating income on behalf of the Staff of the Public Service Commission.

Pennsylvania-American Water Company (Pennsylvania Public Utility Commission, Docket No. R-00943231), February 1995. Testified on cost allocation and rate design issues on behalf of the Pennsylvania Office of Consumer Advocate.

NorAm Gas Transmission Company (Federal Energy Regulatory Commission, Docket No. RP93-343-000), March 1995. Testified on rate base, operating expense and income tax issues on behalf of the Arkansas Public Service Commission and the Louisiana Public Service Commission. (Case settled prior to hearings.)

Artesian Water Company, Inc. (Delaware Public Service Commission, Docket No. 94-164), March 1995. Testified on cost allocation, rate design and monthly billing issues on behalf of the Staff of the Public Service Commission. (Case settled prior to cross-examination.)

Pennsylvania Power & Light Company (Pennsylvania Public Utility Commission, Docket No. R-00943271), April 1995. Testified on operating income and rate base issues on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission, Docket No. R-953299), June 1995. Testified on revenue requirement issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Providence Water Supply Board (Rhode Island Public Utilities Commission, Docket No. 2304), July 1995. Testified on water consumption and cost allocation/rate design issues on behalf of the Division of Public Utilities and Carriers.

Tennessee Gas Pipeline Company (Federal Energy Regulatory Commission, Docket No. RP95-112-000), September 1995. Testified on rate base and cost of service issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Prior Expert Testimony  
of Thomas S. Catlin

Transcontinental Gas Pipe Line Corporation (Federal Energy Regulatory Commission, Docket No. RP95-197-000), January 1996. Testified on rate base and cost of service issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Frontier Communications of Pennsylvania, et al. (Pennsylvania Public Utility Commission, Docket No. P-00951005), May 1996. Testified regarding financial issues and operational aspects of Companies' proposal to implement a streamlined form of regulation (price cap) on behalf of the Pennsylvania Office of Consumer Advocate.

Bell Atlantic-Pennsylvania (Pennsylvania Public Utility Commission, Docket No. R-00963550), May 1996. Testified on financial issues, revenue growth, and capital expenditures in conjunction with Bell Atlantic-Pennsylvania's proposal to rebalance rates. Testimony filed on behalf of the Pennsylvania Office of Consumer Advocate.

Petition of AT&T Communications of Pennsylvania for Arbitration of its Interconnection Request to Bell Atlantic-PA (Pennsylvania Public Utility Commission, Docket No. A-310125F0002), September 1996. Sponsored position of Pennsylvania Office of Consumer Advocate on resale discount, 900 number call billing, network interface devices, and unbundled loop rates in arbitration hearings.

Bell Atlantic-Pennsylvania (Pennsylvania Public Utility Commission, Docket No. R-00963578), September 1996. Testified regarding the determination of the appropriate resale discount for Bell Atlantic-Pennsylvania on behalf of the Pennsylvania Office of Consumer Advocate.

Pacific Bell Communications, Inc. (Public Utilities Commission of the State of California, Docket No. 96-03-007), October 1996. Testified on affiliate relationship issues under Section 272 of the Telecommunications Act of 1996 on behalf of the California Cable Television Association.

West Ohio Gas Company (Public Utilities Commission of Ohio, Case No. 96-221-GA-GCR), November 1996. Co-authored report on the audit of the management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Case settled prior to cross-examination.)

Application of MFS Intelenet of Pennsylvania, Inc. et al. (Phase III) (Pennsylvania Public Utility Commission Docket No. A-310203F0002 et al.), January 1997. Testified on loop cost issues on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

Tennessee Gas Pipeline Company (Federal Energy Regulatory Commission Docket Nos. RP91-203-062 and RP92-132-049), March 1997. Testified on ratemaking treatment of New England laterals on behalf of the Tennessee Rate Design Customer Group.

Frontier Communications of Oswayo River, Inc. (Pennsylvania Public Utility Commission Docket Nos. C-00957322 and C-00957324), May 1997. Testified on EAS rate issues on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company (Pennsylvania Public Utility Commission Docket No. R-00973953), June 1997. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

Transcontinental Gas Pipeline Corporation (Federal Energy Regulatory Commission Docket No. RP97-71-000), June 1997. Testified on rate base and cost of service issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination)

Pennsylvania Power & Light Company (Pennsylvania Public Utility Commission Docket No. R-00973954), July 1997. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

Metropolitan Edison Company (Pennsylvania Public Utility Commission Docket No. R-00974008), September 1997. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

Pennsylvania Electric Company (Pennsylvania Public Utility Commission Docket No. R-00974009), September 1997. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

West Penn Power Company (Pennsylvania Public Utility Commission Docket No. R-00973981), November 1997. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

Duquesne Light Company (Pennsylvania Public Utility Commission Docket No. R-00974104), November 1997. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

UGI Utilities, Inc. (Pennsylvania Public Utility Commission Docket No. R-00973975), November 1997. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

Jersey Central Power & Light Company (New Jersey Board of Public Utilities Docket No. E097070459), November 1997. Testified on issues related to the determination of stranded costs including fossil decommissioning costs, income tax related regulatory assets and liabilities and materials and supplies inventories on behalf of the Division of the Ratepayer Advocate.

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. U-20925), November 1997. Testified on issues related to the determination of the cost of service under the Company's Formula Rate Plan on behalf of the Louisiana Public Service Commission Staff.

Pennsylvania Power Company (Pennsylvania Public Utility Commission Docket No. R-00974149), January 1998. Testified on issues related to the determination of stranded costs including regulatory assets, decommissioning costs, and income taxes on behalf of the Pennsylvania Office of Consumer Advocate.

East Ohio Gas Company (Public Utilities Commission of Ohio Case No. 97-219-GA-GCR), May 1998. Co-authored report on the audit of the management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Case settled prior to cross-examination.)

Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP98-203-000), October 1998. Testified on rate base and cost of service issues on behalf of the Northern Municipal Distributors Group and the Midwest Region Gas Task Force Association. (Case settled prior to cross-examination.)

ALLTEL Pennsylvania, Inc. (Pennsylvania Public Utility Commission Docket No. P-00981423), December 1998. Testified with regard to ALLTEL's proposed Alternative Form of Regulation and Network Modernization Plan on behalf of the Pennsylvania Office of Consumer Advocate.

Pennsylvania Telephone Association Small Company Group (Pennsylvania Public Utility Commission Docket No. P-00981425 et. al.), December 1998. Testified with regard to the PTA's proposed Alternative and Streamlined Forms of Regulation and Network Modernization Plans on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

Columbia Gas of Ohio (Public Utilities Commission of Ohio Case No. 98-223-GA-GCR), January 1999. Co-authored report on the audit of the management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Case settled prior to cross-examination.)

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. U-20925), May 1999. Testified on issues related to the determination of the cost of service related to the Company's 1998 Formula Rate Plan filing on behalf of the Staff of Louisiana Public Service Commission. (Case settled prior to cross-examination.)

United Water Rhode Island, Inc. (Rhode Island Public Utilities Commission Docket No. 2873), June 1999. Testified on revenue requirement and rate design issues in conjunction with a settlement. Testified on behalf of the Division of Public Utilities & Carriers.

Woonsocket Water Department (Rhode Island Public Utilities Commission Docket No. 2904), July 1999. Testified on cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

Delta Natural Gas Company (Kentucky Public Service Commission Case Nos. 99-046 and 99-176), July 1999. Testified with regard to Delta's proposed alternative regulation plan on behalf of the Attorney General of the Commonwealth of Kentucky.

Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00994782), September 1999. Testified on recovery of costs associated with natural gas restructuring on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00994784), October 1999. Testified on recovery of costs associated with natural gas restructuring on behalf of the Pennsylvania Office of Consumer Advocate.

City of Newport-Water Division (Rhode Island Public Utilities Commission Docket No. 2985), December 1999. Testified regarding revenue requirement and rate design issues on behalf of the Division of Public Utilities and Carriers.

National Fuel Gas Distribution Company (Pennsylvania Public Utility Commission Docket No. R-00994785), December 1999. Testified on recovery of costs associated with natural gas restructuring on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc.-Gas Division (Pennsylvania Public Utility Commission Docket No. R-00994786), December 1999. Testified on recovery of costs associated with natural gas restructuring on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony

of Thomas S. Catlin

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. U-20925, 1999 Formula Rate Plan Proceeding), January 2000. Testified on issues related to the determination of the cost of service and customer satisfaction survey results on behalf of the Staff of the Louisiana Public Service Commission.

T.W. Phillips Gas and Oil Company (Pennsylvania Public Utility Commission Docket No. R-00994790), April 2000. Testified on recovery of costs associated with natural gas restructuring on behalf of the Pennsylvania Office of Consumer Advocate.

PP&L Inc. (Pennsylvania Public Utility Commission Docket No. M-FAC-9908), April 2000. Testified on issues related to the reconciliation of PP&L's competitive transition charge on behalf of the Pennsylvania Office of Consumer Advocate.

Entergy Louisiana, Inc. & Entergy Corporation (Louisiana Public Service Commission Docket No. U-23356), June 2000. Testified on results of investigation into costs included in Entergy Louisiana, Inc.'s fuel adjustment clause and associated purchased gas contracts on behalf of the Staff of the Louisiana Public Service Commission.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 3163), October 2000. Testified on sales, revenue and costs of service issues on behalf of the Division of Public Utilities and Carriers.

Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3162), October 2000. Testified on revenues, cost of service and rate design issues on behalf of the Division of Public Utilities and Carriers.

Metropolitan Edison Company and Pennsylvania Electric Company (Pennsylvania Public Utility Commission Docket Nos. P-00001837, P-00001838, P-00974008 and P-00974009), November 2000. Testified regarding updated stranded cost claims in conjunction with Companies' petitions for completion of the post-divestiture portion of their restructuring plans on behalf of the Pennsylvania Office of Consumer Advocate.

Pawtucket Water Supply Board (Rhode Island Public Utilities Commission Docket No. 3193), March 2001. Testified regarding cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

Metropolitan Edison Company and Pennsylvania Electric Company (Pennsylvania Public Utility Commission Docket Nos. P-00001860 and P-00001861), March 2001. Testified on issues related to the Companies' request for a rate cap exception pursuant to their restructuring settlements on behalf of the Pennsylvania Office of Consumer Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. 20925(SC)), March 2001. Testified regarding regulatory assets recognizable as stranded costs on behalf of the Staff of the Louisiana Public Service Commission.

Citizens Utilities Company and Atmos Energy Corporation (Louisiana Public Service Commission Docket No. S-25003), April 2001. Testified regarding acquisition of Louisiana gas assets of Citizens Utilities by Atmos Energy on behalf of the Staff of the Louisiana Public Service Commission.

Atmos Energy Corporation and Citizen's Utilities Company (Louisiana Public Service Commission Docket No. S-25003), April 2001. Testified regarding the acquisition of Louisiana Gas Service Company and other Louisiana gas assets of Citizen's Utilities by Atmos Energy on behalf of the Commission Staff.

Dayton Power & Light Company (Public Utilities Commission of Ohio Case No. 00-220-GA-GCR), May 2001. Co-authored report on the audit of the management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Case settled prior to cross-examination.)

Philadelphia Water Department (Philadelphia Water Commission 2001 Water and Wastewater Rate Proceeding), June 2001. Testified regarding water cost allocation and rate design on behalf of the Office of Public Advocate.

Community Service Telephone Company (Maine Public Utilities Commission Docket No. 2000-249), July 2001. Testified on revenue requirement issues on behalf of the Maine Office of Public Advocate. (Case settled prior to cross-examination.)

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. U-20925, 2000 Formula Rate Plan), August 2001. Testified on stipulated adjustments to the Company's filed cost of service on behalf of the Staff of the Louisiana Public Service Commission.

Southwest Gas Corporation (Public Utilities Commission of Nevada Docket No. 01-7023), November 2001. Testified on revenue requirement issues on behalf of the Office of Attorney General Bureau of Consumer Protection. (Case settled prior to cross-examination.)

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. U-20925, 2001 Formula Rate Plan), November 2001. Testified on issues related to the determination of the cost of service under the Company's Formula Rate Plan on behalf of the Staff of the Louisiana Public Service Commission.

Prior Expert Testimony  
of Thomas S. Catlin

Central Maine Power Company (Maine Public Utilities Commission Docket No. 2001-232), November 2001. Testified on issues related to the reconciliation and determination of stranded costs on behalf of the Maine Office of Public Advocate. (Case settled prior to cross-examination.)

Bangor Hydro-Electric Company (Maine Public Utilities Commission Docket No. 2001-239), November 2001. Testified on issues related to the reconciliation and determination of stranded costs on behalf of the Maine Office of Public Advocate. (Case settled prior to cross-examination.)

Transcontinental Gas Pipe Line Corporation (Federal Energy Regulatory Commission Docket No. RP01-245-000), November 2001. Testified on revenue requirement issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Pawtucket Water Supply Board (Rhode Island Public Utilities Commission Docket No. 3378), December 2001. Testified on cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers. (Case settled prior to cross-examination.)

Reliant Energy Arkla and Reliant Energy Entex (Louisiana Public Service Commission Docket No. S-26166), January 2002 and June 2002. Testified regarding corporate reorganization and provisions to protect retail ratepayers on behalf of the Staff of the Commission (Testimony presented live.)

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3409), March 2002. Testified regarding NBC's abbreviated rate increase request and the design of rates on behalf of the Division of Public Utilities and Carriers.

Pike County Power and Light Company, (Pennsylvania Public Utility Commission Docket No. R-00016849 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

PPL Electric Utilities Corporation (Pennsylvania Public Utility Commission Docket No. R-00016850 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

Pennsylvania Power Company (Pennsylvania Public Utility Commission Docket No. R-00016851 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

Metropolitan Edison Company (Pennsylvania Public Utility Commission Docket No. R-00016852 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

Pennsylvania Electric Company (Pennsylvania Public Utility Commission Docket No. R-00016853 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

Duquesne Light Company (Pennsylvania Public Utility Commission Docket No. R-00016854 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

UGI Utilities, Inc. - Electric Division (Pennsylvania Public Utility Commission Docket No. R-00016855 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

PECO Energy Company (Pennsylvania Public Utility Commission Docket No. R-00016856 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

West Penn Power Company, (Pennsylvania Public Utility Commission Docket No. R-00016857 C0001), April 2002. Testified regarding Company's request for a rate cap exception to increase rates on behalf of the Pennsylvania Office of Advocate.

Philadelphia Gas Works (Pennsylvania Public Utility Commission Docket No. R-00017034), May 2002. Testified regarding proposed weather normalization adjustment clause on behalf of the Pennsylvania Office of Advocate.

Total Environmental Solutions, Inc. (Louisiana Public Service Commission Docket No. U-22148, Subdocket G), June 2002. Testified regarding proposal to realign nonresidential water and sewer rates on behalf of the Staff of the Louisiana Public Service Commission.

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. U-20925, Subdocket B), August 2002. Testified on Term Sheet entered into to resolve case and achieve sharing of mark-to-market tax deduction for the Vidalia purchased power contract. Testified jointly with Matthew Kahal on behalf of the Staff of Louisiana Public Service Commission.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 3446), October 2002. Testified on revenue requirements and rate design issues on behalf of the Division of Public Utilities and Carriers.

Prior Expert Testimony  
of Thomas S. Catlin

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3432), December 2002. Testified on issues related to stormwater rates on behalf of the Division of Public Utilities and Carriers.

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3483), March 2003. Testified on revenue requirements and rate design issues on behalf of the Division of Public Utilities and Carriers.

National Fuel Gas Distribution Corporation Pennsylvania Division (Pennsylvania Public Utility Commission Docket No. R-00038168), July 2003. Testified on rate base and operating revenues and expense issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 02-221-GA-GCR), co-authored report on the audit of the management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

Total Environmental Solutions, Inc. (Louisiana Public Service Commission Docket No. U-22148, Subdocket H), August 2003. Testified on water and sewer revenue requirements and rate design on behalf of the Staff of Louisiana Public Service Commission. (Case settled prior to cross-examination.)

Pascoag Utility District (Rhode Island Public Utilities Commission Docket No. 3546), November 2003. Testified on revenue and expense issues on behalf of the Division of Public Utilities and Carriers. (Case settled prior to cross-examination.)

CenterPoint Energy Entex, Louisiana Division (Louisiana Public Service Commission Docket No. U-26720, Subdocket A), December 2003. Presented Staff Recommendation report addressing revenue requirements, rate design and alternative regulatory plan on behalf of the Staff of the Louisiana Public Service Commission. (Case settled prior to cross-examination.)

Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP03-398-000), December 2003. Testified on rate base and cost of service issues on behalf of the Northern Municipal Distributors Group and the Midwest Region Gas Task Force Association.

City of Hagerstown, Maryland (Maryland Public Service Commission Case No. 8934), February 2004. Testified on proper methodology for establishing water and sewer rates for customers outside the City limits on behalf of the Water and Sewer Advisory Commission of Washington County.

Prior Expert Testimony  
of Thomas S. Catlin

City of Newport Utilities Department, Water Division (Rhode Island Public Utilities Commission Docket No. 3578), March 2004. Testified on revenue requirement, cost allocation and rate design issues on behalf of the Division of Public Utilities and carriers.

PPL Electric Utilities Corporation (Pennsylvania Public Utility Commission Docket No. R-000049255), June 2004. Testified on policy and revenue requirement issues on behalf of the Pennsylvania Office of Consumer Advocate.

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3592), June 2004. Testified regarding NBC's abbreviated rate increase request on behalf of the Division of Public Utilities and Carriers.

Centerpoint Energy Arkla, Louisiana Division (Louisiana Public Service Commission Docket No. U-27676), July 2004. Presented Staff Recommendation report addressing revenue requirements, rate design and alternative regulatory plan on behalf of the Staff of the Louisiana Public Service Commission. (Case settled prior to cross-examination.)

Entergy Louisiana, Inc. (Louisiana Public Service Commission Docket No. U-20925 RRF 2004), August 2004. Testified on policy and revenue requirement issues on behalf of the Staff of the Louisiana Public Commission.

Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP04-155-000), November 2004. Testified on rate base and cost of service issues on behalf of the Northern Municipal Distributors Group and the Midwest Region Gas Task Force Association. (Case settled prior to cross-examination.)

National Fuel Gas Distribution Corporation Pennsylvania Division (Pennsylvania Public Utility Commission Docket No. R-00049656), December 2004. Testified on rate base and operating revenues and expense issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Philadelphia Water Department (Philadelphia Water Commission Docket No. FY 2005-2008 Rates), March 2005. Testified regarding water cost allocation and rate design on behalf of the Office of Public Advocate.

Block Island Power Company (Rhode Island Public Utilities Commission Docket No. 3655), April 2005. Testified on operating income and rate base issues on behalf of the Division of Public Utilities and Carriers.

Prior Expert Testimony  
of Thomas S. Catlin

Entergy Gulf States, Inc.-Louisiana Gas (Louisiana Public Service Commission Docket No. U-28035), May 2005. Presented Staff Recommendation report addressing revenue requirements, rate design and alternative regulatory plan on behalf of the Staff of the Louisiana Public Service Commission. (Case settled prior to cross-examination.)

Pawtucket Water Supply Board (Rhode Island Public Utilities Commission Docket No. 3674), July 2005. Testified on cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

City of Newport Utilities Department, Water Division (Rhode Island Public Utilities Commission Docket 3675), September 2005. Testified on revenue requirements and rate design issues on behalf of the Division of Public Utilities and Carriers.

Verizon New England, Inc. d/b/a Verizon Maine (Maine Public Service Commission Docket No. 2005-155), September 2005. Testified on revenue requirements issues on behalf of the Maine Office of Public Advocate.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 3684), October 2005. Testified on revenue requirements and rate design issues on behalf of the Division of Public Utilities and Carriers.

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3707), February 2006. Testified on revenue requirement and rate design issues on behalf of the Division of Public Utilities and Carriers.

Cleco Power, LLC (Louisiana Public Service Commission Docket No. U-29157), February 2006. Testified with Matthew I. Kahal regarding Staff's recommendations regarding Phase I recovery of storm damage costs resulting from Hurricanes Katrina and Rita on behalf of the Staff of the Louisiana Public Service Commission.

Atmos Energy Corporation (Louisiana Public Service Commission Consolidated Docket Nos. U-28814 et. al.), May 2006. Presented Staff's recommendation regarding renewal of alternative regulatory plans of Louisiana Gas Services and Trans Louisiana Gas Company of the Staff of the Louisiana Public Service Commission.

Metropolitan Edison Company (Pennsylvania Public Utility Commission Docket No. R-00061366), July 2006. Testified regarding rate base and net operating income issues on behalf of the Pennsylvania Office of Advocate.

Pennsylvania Electric Company (Pennsylvania Public Utility Commission Docket No. R-00061367), July 2006. Testified regarding rate base and net operating income issues on behalf of the Pennsylvania Office of Advocate.

Prior Expert Testimony  
of Thomas S. Catlin

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3775), October 2006. Testified on revenue requirement and rate design issues on behalf of the Division of Public Utilities and Carriers.

Entergy Louisiana, LLC and Entergy Gulf States, Inc-Louisiana (Louisiana Public Service Commission Docket No. U-29203), January 2007. Testified on issues related to costs eligible for recovery as storm damage costs due to Hurricanes Katrina and Rita on behalf of the Staff of the Louisiana Public Commission.

Southern Indiana Gas and Electric Company (Indiana Utility Regulatory Commission Cause No. 43111), February 2007. Testified on rate base and net operating income issues on behalf of the Indiana Office of Utility Consumer Counselor.

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3797), March 2007. Testified on revenue requirement and rate design issues on behalf of the Division of Public Utilities and Carriers.

City of Newport Utilities Department, Water Division (Rhode Island Public Utilities Commission Docket No. 3818), May 2007. Testified on revenue requirement and cost recovery issues on behalf of the Division of Public Utilities and carriers.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 3832), July 2007. Testified on revenue requirements issues on behalf of the Division of Public Utilities and Carriers.

Central Maine Power Company (Maine Public Utility Commission Docket No. 2007-215), August 2007. Testified on merger savings, revenue requirement and alternative rate plan issues on behalf of the Maine Office of Public Advocate.

Central Maine Power Company and Maine Natural Gas Corporation (Maine Public Utilities Commission Docket No. 2007-355), November 2007. Testified regarding non-financial issues and conditions to protect Maine ratepayer interests related to potential acquisition of Central Maine Power and Maine Natural Gas's parent company, Energy East, by IBERDROLA, SA. Testified on behalf of Maine Office of Public Advocate.

Entergy Louisiana, LLC (Louisiana Public Service Commission Docket No. U-30192, Phase II), March 2008. Testified regarding contra-AFUDC accounting and rate recovery issues associated with repowering of the Little Gypsy Unit 3 generating station on behalf of the Staff of the Louisiana Public Service Commission.

Prior Expert Testimony  
of Thomas S. Catlin

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 3905), March 2008. Testified on revenue requirements and rate design issues on behalf of the Division of Public Utilities and Carriers.

Entergy Louisiana, LLC and Entergy Gulf States, Inc. – Louisiana (Louisiana Public Service Commission Docket No. U-29203, Phases IV and V), April 2008. Testified regarding benefits of securitization under Louisiana Act 55 on behalf of the Staff of the Louisiana Public Service Commission. (Testimony submitted by Affidavit.)

Entergy Louisiana, LLC (Louisiana Public Service Commission Docket No. U-20925 (FRP-2006)), April 2008. Testified on revenue requirement issues on behalf of the Staff of the Louisiana Public Service Commission.

Kent County Water Authority (Rhode Island Public Utilities Commission Docket No. 3942), July 2008. Testified on revenue requirements, cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

Indiana Michigan Power Company (Indiana Utility Regulatory Commission Cause No. 43306), September 2008. Testified on revenue requirements issues on behalf of the Indiana Office of Utility Consumer Counselor. (Case settled prior to cross-examination.)

City of Newport Utilities Department, Water Division (Rhode Island Public Utilities Commission Docket No. 4025), April 2009. Testified on revenue requirement and cost recovery issues on behalf of the Division of Public Utilities and carriers.

The Narragansett Bay Commission (Rhode Island Public Utilities Commission Docket No. 4026), April 2009. Testified on cost recovery and rate design issues on behalf of the Division of Public Utilities and Carriers.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43526), May 2009. Testified on revenue requirement issues on behalf of the Indiana Office of Utility Consumer Counselor.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 4061), July 2009. Testified on revenue requirement and cost recovery issues on behalf of the Division of Public Utilities and Carriers.

Cleco Power, LLC (Louisiana Public Service Commission Docket No. U-30689) September 2009. Testified in support of proposed stipulated settlement on issues related to overall cost of service and new formula rate plan on behalf of the Staff of the Louisiana Public Service Commission.

Prior Expert Testimony  
of Thomas S. Catlin

PECO Energy Company (Pennsylvania Public Utility Commission Docket No. M-2009-2123944), October 2009. Testified with regard to smart meter cost recovery issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

PPL Electric Utilities Corporation (Pennsylvania Public Utility Commission Docket No. M-2009-2123945), October 2009. Testified with regard to smart meter cost recovery issues on behalf of the Pennsylvania Office of Consumer Advocate.

Duquesne Light Company (Pennsylvania Public Utility Commission Docket No. M-2009-2123948), October 2009. Testified with regard to smart meter cost recovery issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Entergy Louisiana, LLC and Entergy Gulf States Louisiana, L.L.C. (Louisiana Public Service Commission Docket No. U-30981), December 2009. Testified on issues related to costs eligible for recovery as storm damage costs due to Hurricanes Gustav and Ike on behalf of the Staff of the Louisiana Public Service Commission.

Entergy Louisiana, LLC and Entergy Gulf States Louisiana, L.L.C. (Louisiana Public Service Commission Docket No. U-30981), March 2010. Testified in support of proposed uncontested stipulated settlement related to the recoverable level of storm costs and the appropriate level of storm reserves on behalf of the Staff of the Louisiana Public Service Commission.

Philadelphia Gas Works (Pennsylvania Public Utility Commission Docket No. R-2009-2139884), March 2010. Testified regarding the recovery of accrual basis costs of provided OPEBs pursuant to GASB No. 45 on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Southern Indiana Gas and Electric Company/Vectren South Electric (Indiana Utility Regulatory Commission Cause No. 43839), June 2010. Testified on rate base and net operating income issues on behalf of the Indiana Office of Utility Consumer Counselor.

Entergy Louisiana, LLC and Entergy Gulf States Louisiana, L.L.C. (Louisiana Public Service Commission Docket No. U-31237), July 2010. Testified in support of settlement on nuclear decommissioning funding allowances for the Waterford 3 and River Bend Nuclear Generating Stations on behalf of the Staff of the Louisiana Public Service Commission.

Prior Expert Testimony  
of Thomas S. Catlin

T.W. Phillips Gas and Oil Company (Pennsylvania Public Utility Commission Docket No. R-2010-2167797), August 2010. Testified regarding the rate base and net operating income issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Pawtucket Water Supply Board (Rhode Island Public Utilities Commission Docket No. 4171), September 2010. Testified on revenue requirement and cost recovery issues on behalf of the Division of Public Utilities and Carriers.

West Penn Power Company d/b/a Allegheny Power (Pennsylvania Public Utility Commission Docket No. P-2010-2158084), November 2010. Testified regarding the proposal to implement a Reconcilable Transmission Service Charge on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Peoples Natural Gas Company, LLC (Pennsylvania Public Utility Commission Docket No. R-2010-2201702), January 2011. Testified regarding rate base, net operating and policy income issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Columbia Gas of Pennsylvania, Inc. (Pennsylvania Public Utility Commission Docket No. R-2010-2215623), April 2011. Testified regarding rate base, net operating income and policy issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

Northern Utilities, Inc. (Maine Public Utilities Commission Docket No. 2011-92), August 2011. Testified regarding rate base, net operating income and policy issues on behalf of the Maine Public Advocate. (Case settled prior to cross-examination.)

City of Newport Utilities Department, Water Division (Rhode Island Public Utilities Commission Docket No. 4243), August 2011. Testified on revenue requirement and cost recovery issues on behalf of the Division of Public Utilities and carriers. (Case settled prior to cross-examination.)

United Water Rhode Island, Inc. (Rhode Island Public Utilities Commission Docket No. 4255), September 2011. Testified on revenue requirement issues of behalf of the Division of Public Utilities & Carriers. (Case settled prior to cross-examination.)

## MATTHEW I. KAHAL

Since 2001, Mr. Kahal has worked as an independent consulting economist, specializing in energy economics, public utility regulation and utility financial studies. Over the past three decades, his work has encompassed electric utility integrated resource planning (IRP), power plant licensing, environmental compliance and utility financial issues. In the financial area he has conducted numerous cost of capital studies and addressed other financial issues for electric, gas, telephone and water utilities. Mr. Kahal's work in recent years has shifted to electric utility restructuring, mergers and various aspects of regulation.

Mr. Kahal has provided expert testimony on more than 350 occasions before state and federal regulatory commissions and the U.S. Congress. His testimony has covered need for power, integrated resource planning, cost of capital, purchased power practices and contracts, merger economics, industry restructuring and various other regulatory and public policy issues.

### Education:

B.A. (Economics) - University of Maryland, 1971.

M.A. (Economics) - University of Maryland, 1974.

Ph.D. candidacy - University of Maryland, completed all course work and qualifying examinations.

### Previous Employment:

1981-2001 - Exeter Associates, Inc. (founding Principal, Vice President and President).

1980-1981 - Member of the Economic Evaluation Directorate, The Aerospace Corporation, Washington, D.C. office.

1977-1980 - Economist, Washington, D.C. consulting firm.

1972-1977 - Research/Teaching Assistant and Instructor, Department of Economics, University of Maryland (College Park). Lecturer in Business and Economics, Montgomery College.

### Professional Work Experience:

Mr. Kahal has more than thirty years experience managing and conducting consulting assignments relating to public utility economics and regulation. In 1981, he and five colleagues founded the firm of Exeter Associates, Inc. and for the next 20 years he served as a Principal and corporate officer in the firm. During that time, he supervised multi-million dollar support contracts with the State of Maryland and directed the technical work conducted both by Exeter professional staff and numerous subcontractors. Additionally, Mr. Kahal took the lead role at

Exeter in consulting to the firm's other governmental and private clients in the areas of financial analysis, utility mergers, electric restructuring and utility purchase power contracts.

At the Aerospace Corporation, Mr. Kahal served as an economic consultant to the Strategic Petroleum Reserve (SPR). In that capacity he participated in a detailed financial assessment of the SPR, and developed an econometric forecasting model of U.S. petroleum industry inventories. That study has been used to determine the extent to which private sector petroleum stocks can be expected to protect the U.S. from the impacts of oil import interruptions.

Before entering consulting, Mr. Kahal held faculty positions with the Department of Economics at the University of Maryland and with Montgomery College teaching courses on economic principles, business and economic development.

**Publications and Consulting Reports:**

Projected Electric Power Demands of the Baltimore Gas and Electric Company, Maryland Power Plant Siting Program, 1979.

Projected Electric Power Demands of the Allegheny Power System, Maryland Power Plant Siting Program, January 1980.

An Econometric Forecast of Electric Energy and Peak Demand on the Delmarva Peninsula, Maryland Power Plant Siting Program, March 1980 (with Ralph E. Miller).

A Benefit/Cost Methodology of the Marginal Cost Pricing of Tennessee Valley Authority Electricity, prepared for the Board of Directors of the Tennessee Valley Authority, April 1980.

An Evaluation of the Delmarva Power and Light Company Generating Capacity Profile and Expansion Plan, (Interim Report), prepared for the Delaware Office of the Public Advocate, July 1980, (with Sharon L. Mason).

Rhode Island-DOE Electric Utilities Demonstration Project, Third Interim Report on Preliminary Analysis of the Experimental Results, prepared for the Economic Regulatory Administration, U.S. Department of Energy, July 1980.

Petroleum Inventories and the Strategic Petroleum Reserve, The Aerospace Corporation, prepared for the Strategic Petroleum Reserve Office, U.S. Department of Energy, December 1980.

Alternatives to Central Station Coal and Nuclear Power Generation, prepared for Argonne National Laboratory and the Office of Utility Systems, U.S. Department of Energy, August 1981.

"An Econometric Methodology for Forecasting Power Demands," Conducting Need-for-Power Review for Nuclear Power Plants (D.A. Nash, ed.), U.S. Nuclear Regulatory Commission, NUREG-0942, December 1982.

State Regulatory Attitudes Toward Fuel Expense Issues, prepared for the Electric Power Research Institute, July 1983, (with Dale E. Swan).

"Problems in the Use of Econometric Methods in Load Forecasting," Adjusting to Regulatory, Pricing and Marketing Realities (Harry Trebing, ed.), Institute of Public Utilities, Michigan State University, 1983.

Proceedings of the Maryland Conference on Electric Load Forecasting, (editor and contributing author), Maryland Power Plant Siting Program, PPES-83-4, October 1983.

"The Impacts of Utility-Sponsored Weatherization Programs: The Case of Maryland Utilities," (with others), in Government and Energy Policy (Richard L. Itteilag, ed.), 1983.

Power Plant Cumulative Environmental Impact Report, contributing author, (Paul E. Miller, ed.) Maryland Department of Natural Resources, January 1984.

Projected Electric Power Demands for the Potomac Electric Power Company, three volumes with Steven L. Estomin), prepared for the Maryland Power Plant Siting Program, March 1984.

"An Assessment of the State-of-the-Art of Gas Utility Load Forecasting," (with Thomas Bacon, Jr. and Steven L. Estomin), published in the Proceedings of the Fourth NARUC Biennial Regulatory Information Conference, 1984.

"Nuclear Power and Investor Perceptions of Risk," (with Ralph E. Miller), published in The Energy Industries in Transition: 1985-2000 (John P. Weyant and Dorothy Sheffield, eds.), 1984.

The Financial Impact of Potential Department of Energy Rate Recommendations on the Commonwealth Edison Company, prepared for the U.S. Department of Energy, October 1984.

"Discussion Comments," published in Impact of Deregulation and Market Forces on Public Utilities: The Future of Regulation (Harry Trebing, ed.), Institute of Public Utilities, Michigan State University, 1985.

An Econometric Forecast of the Electric Power Loads of Baltimore Gas and Electric Company, two volumes (with others), prepared for the Maryland Power Plant Siting Program, 1985.

A Survey and Evaluation of Demand Forecast Methods in the Gas Utility Industry, prepared for the Public Utilities Commission of Ohio, Forecasting Division, November 1985, (with Terence Manuel).

A Review and Evaluation of the Load Forecasts of Houston Lighting & Power Company and Central Power & Light Company -- Past and Present, prepared for the Texas Public Utility Commission, December 1985, (with Marvin H. Kahn).

Power Plant Cumulative Environmental Impact Report for Maryland, principal author of three of the eight chapters in the report (Paul E. Miller, ed.), PPSP-CEIR-5, March 1986.

"Potential Emissions Reduction from Conservation, Load Management, and Alternative Power," published in Acid Deposition in Maryland: A Report to the Governor and General Assembly, Maryland Power Plant Research Program, AD-87-1, January 1987.

Determination of Retrofit Costs at the Oyster Creek Nuclear Generating Station, March 1988, prepared for Versar, Inc., New Jersey Department of Environmental Protection.

Excess Deferred Taxes and the Telephone Utility Industry, April 1988, prepared on behalf of the National Association of State Utility Consumer Advocates.

Toward a Proposed Federal Policy for Independent Power Producers, comments prepared on behalf of the Indiana Consumer Counselor, FERC Docket EL87-67-000, November 1987.

Review and Discussion of Regulations Governing Bidding Programs, prepared for the Pennsylvania Office of Consumer Advocate, June 1988.

A Review of the Proposed Revisions to the FERC Administrative Rules on Avoided Costs and Related Issues, prepared for the Pennsylvania Office of Consumer Advocate, April 1988.

Review and Comments on the FERC NOPR Concerning Independent Power Producers, prepared for the Pennsylvania Office of Consumer Advocate, June 1988.

The Costs to Maryland Utilities and Ratepayers of an Acid Rain Control Strategy -- An Updated Analysis, prepared for the Maryland Power Plant Research Program, October 1987, AD-88-4.

"Comments," in New Regulatory and Management Strategies in a Changing Market Environment (Harry M. Trebing and Patrick C. Mann, editors), Proceedings of the Institute of Public Utilities Eighteenth Annual Conference, 1987.

Electric Power Resource Planning for the Potomac Electric Power Company, prepared for the Maryland Power Plant Research Program, July 1988.

Power Plant Cumulative Environmental Impact Report for Maryland (Thomas E. Magette, ed.) authored two chapters, November 1988, PPRP-CEIR-6.

Resource Planning and Competitive Bidding for Delmarva Power & Light Company, October 1990, prepared for the Maryland Department of Natural Resources (with M. Fullenbaum).

Electric Power Rate Increases and the Cleveland Area Economy, prepared for the Northeast Ohio Areawide Coordinating Agency, October 1988.

An Economic and Need for Power Evaluation of Baltimore Gas & Electric Company's Perryman Plant, May 1991, prepared for the Maryland Department of Natural Resources (with M. Fullenbaum).

The Cost of Equity Capital for the Bell Local Exchange Companies in a New Era of Regulation, October 1991, presented at the Atlantic Economic Society 32nd Conference, Washington, D.C.

A Need for Power Review of Delmarva Power & Light Company's Dorchester Unit 1 Power Plant, March 1993, prepared for the Maryland Department of National Resources (with M. Fullenbaum)

The AES Warrior Run Project: Impact on Western Maryland Economic Activity and Electric Rates, February 1993, prepared for the Maryland Power Plant Research Program (with Peter Hall).

An Economic Perspective on Competition and the Electric Utility Industry, November 1994. Prepared for the Electric Consumers' Alliance.

PEPCO's Clean Air Act Compliance Plan: Status Report, prepared for the Maryland Power Plant Research Plan, January 1995 (w/Diane Mountain, Environmental Resources Management, Inc.).

The FERC Open Access Rulemaking: A Review of the Issues, prepared for the Indiana Office of Utility Consumer Counselor and the Pennsylvania Office of Consumer Advocate, June 1995.

A Status Report on Electric Utility Restructuring: Issues for Maryland, prepared for the Maryland Power Plant Research Program, November 1995 (with Daphne Psacharopoulos).

Modeling the Financial Impacts on the Bell Regional Holding Companies from Changes in Access Rates, prepared for MCI Corporation, May 1996.

The CSEF Electric Deregulation Study: Economic Miracle or the Economists' Cold Fusion?, prepared for the Electric Consumers' Alliance, Indianapolis, Indiana, October 1996.

Reducing Rates for Interstate Access Service: Financial Impacts on the Bell Regional Holding Companies, prepared for MCI Corporation, May 1997.

The New Hampshire Retail Competition Pilot Program: A Preliminary Evaluation, July 1997, prepared for the Electric Consumers' Alliance (with Jerome D. Mierzwa).

Electric Restructuring and the Environment: Issue Identification for Maryland, March 1997, prepared for the Maryland Power Plant Research Program (with Environmental Resource Management, Inc.)

An Analysis of Electric Utility Embedded Power Supply Costs, prepared for Power-Gen International Conference, Dallas, Texas, December 1997.

Market Power Outlook for Generation Supply in Louisiana, December 2000, prepared for the Louisiana Public Service Commission (with others).

A Review of Issues Concerning Electric Power Capacity Markets, prepared for the Maryland Power Plant Research Program, December 2001 (with B. Hobbs and J. Inon).

The Economic Feasibility of Air Emissions Controls at the Brandon Shores and Morgantown Coal-fired Power Plants, February 2005, (prepared for the Chesapeake Bay Foundation).

The Economic Feasibility of Power Plant Retirements on the Entergy System, September 2005 with Phil Hayet (prepared for the Louisiana Public Service Commission).

Expert Report on Capital Structure, Equity and Debt Costs, prepared for the Edmonton Regional Water Customers Group, August 30, 2006.

Maryland's Options to Reduce and Stabilize Electric Power Prices Following Restructuring, with Steven L. Estomin, prepared for the Power Plant Research Program, Maryland Department of Natural Resources, September 2006.

Expert Report of Matthew I. Kahal, on behalf of the U. S. Department of Justice, August 2008, Civil Action No. IP-99-1693C-MIS.

**Conference and Workshop Presentations:**

Workshop on State Load Forecasting Programs, sponsored by the Nuclear Regulatory Commission and Oak Ridge National Laboratory, February 1982 (presentation on forecasting methodology).

Fourteenth Annual Conference of the Michigan State University Institute for Public Utilities, December 1982 (presentation on problems in forecasting).

Conference on Conservation and Load Management, sponsored by the Massachusetts Energy Facilities Siting Council, May 1983 (presentation on cost-benefit criteria).

Maryland Conference on Load Forecasting, sponsored by the Maryland Power Plant Siting Program and the Maryland Public Service Commission, June 1983 (presentation on overforecasting power demands).

The 5th Annual Meetings of the International Association of Energy Economists, June 1983 (presentation on evaluating weatherization programs).

The NARUC Advanced Regulatory Studies Program (presented lectures on capacity planning for electric utilities), February 1984.

The 16th Annual Conference of the Institute of Public Utilities, Michigan State University (discussant on phase-in and excess capacity), December 1984.

U.S. Department of Energy Utilities Conference, Las Vegas, Nevada (presentation of current and future regulatory issues), May 1985.

The 18th Annual Conference of the Institute of Public Utilities, Michigan State University, Williamsburg, Virginia, December 1986 (discussant on cogeneration).

The NRECA Conference on Load Forecasting, sponsored by the National Rural Electric Cooperative Association, New Orleans, Louisiana, December 1987 (presentation on load forecast accuracy).

The Second Rutgers/New Jersey Department of Commerce Annual Conference on Energy Policy in the Middle Atlantic States, Rutgers University, April 1988 (presentation on spot pricing of electricity).

The NASUCA 1988 Mid-Year Meeting, Annapolis, Maryland, June 1988, sponsored by the National Association of State Utility Consumer Advocates (presentation on the FERC electricity avoided cost NOPRs).

The Thirty Second Atlantic Economic Society Conference, Washington, D.C., October 1991 (presentation of a paper on cost of capital issues for the Bell Operating Companies).

The NASUCA 1993 Mid-Year Meeting, St. Louis, Missouri, sponsored by the National Association of State Utility Consumer Advocates, June 1993 (presentation on regulatory issues concerning electric utility mergers).

The NASUCA and NARUC annual meetings in New York City, November 1993 (presentations and panel discussions on the emerging FERC policies on transmission pricing).

The NASUCA annual meetings in Reno, Nevada, November 1994 (presentation concerning the FERC NOPR on stranded cost recovery).

U.S. Department of Energy Utilities/Energy Management Workshop, March 1995 (presentation concerning electric utility competition).

The 1995 NASUCA Mid-Year Meeting, Breckenridge, Colorado, June 1995, (presentation concerning the FERC rulemaking on electric transmission open access).

The 1996 NASUCA Mid-Year Meeting, Chicago, Illinois, June 1996 (presentation concerning electric utility merger issues).

Conference on "Restructuring the Electric Industry," sponsored by the National Consumers League and Electric Consumers Alliance, Washington, D.C., May 1997 (presentation on retail access pilot programs).

The 1997 Mid-Atlantic Conference of Regulatory Utilities Commissioners (MARUC), Hot Springs, Virginia, July 1997 (presentation concerning electric deregulation issues).

Power-Gen '97 International Conference, Dallas, Texas, December 1997 (presentation concerning utility embedded costs of generation supply).

Consumer Summit on Electric Competition, sponsored by the National Consumers League and Electric Consumers' Alliance, Washington, D.C., March 2001 (presentation concerning generation supply and reliability).

National Association of State Utility Consumer Advocates, Mid-Year Meetings, Austin, Texas, June 16-17, 2002 (presenter and panelist on RTO/Standard Market Design issues).

Louisiana State Bar Association, Public Utility Section, October 2, 2002. (Presentation on Performance-Based Ratemaking and panelist on RTO issues). Baton Rouge, Louisiana.

Virginia State Corporation Commission/Virginia State Bar, Twenty Second National Regulatory Conference, May 10, 2004. (Presentation on Electric Transmission System Planning.) Williamsburg, Virginia.

**Expert Testimony  
of Matthew J. Kahal**

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
1. 27374 & 27375 October 1978	Long Island Lighting Company	New York Counties	Nassau & Suffolk	Economic Impacts of Proposed Rate Increase
2. 6807 January 1978	Generic	Maryland	MD Power Plant Siting Program	Load Forecasting
3. 78-676-EL-AIR February 1978	Ohio Power Company	Ohio	Ohio Consumers' Counsel	Test Year Sales and Revenues
4. 17667 May 1979	Alabama Power Company	Alabama	Attorney General	Test Year Sales, Revenues, Costs and Load Forecasts
5. None April 1980	Tennessee Valley Authority	TVA Board	League of Women Voters	Time-of-Use Pricing
6. R-80021082	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Load Forecasting, Marginal Cost pricing
7. 7259 (Phase I) October 1980	Potomac Edison Company	Maryland	MD Power Plant Siting Program	Load Forecasting
8. 7222 December 1980	Delmarva Power & Light Company	Maryland	MD Power Plant Siting Program	Need for Plant, Load Forecasting
9. 7441 June 1981	Potomac Electric Power Company	Maryland	Commission Staff	PURPA Standards
10. 7159 May 1980	Baltimore Gas & Electric	Maryland	Commission Staff	Time-of-Use Pricing
11. 81-044-E-42T	Monongahela Power	West Virginia	Commission Staff	Time-of-Use Rates
12. 7259 (Phase II) November 1981	Potomac Edison Company	Maryland	MD Power Plant Siting Program	Load Forecasting, Load Management
13. 1606 September 1981	Blackstone Valley Electric and Natragansett	Rhode Island	Division of Public Utilities	PURPA Standards
14. RID 1819 April 1982	Pennsylvania Bell	Pennsylvania	Office of Consumer Advocate	Rate of Return
15. 82-0152 July 1982	Illinois Power Company	Illinois	U.S. Department of Defense	Rate of Return, CWIP

Expert Testimony  
 of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
16 7559 September 1982	Potomac Edison Company	Maryland	Commission Staff	Cogeneration
17 820150-EU September 1982	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return, CWIP
18 82-057-15 January 1983	Mountain Fuel Supply Company	Utah	Federal Executive Agencies	Rate of Return, Capital Structure
19 5200 August 1983	Texas Electric Service Company	Texas	Federal Executive Agencies	Cost of Equity
20 28069 August 1983	Oklahoma Natural Gas	Oklahoma	Federal Executive Agencies	Rate of Return, deferred taxes, capital structure, attrition
21 83-0537 February 1984	Commonwealth Edison Company	Illinois	U S Department of Energy	Rate of Return, capital structure, financial capability
22 84-035-01 June 1984	Utah Power & Light Company	Utah	Federal Executive Agencies	Rate of Return
23 U-1009-137 July 1984	Utah Power & Light Company	Idaho	U S Department of Energy	Rate of Return, financial condition
24 R-842590 August 1984	Philadelphia Electric Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
25 840086-EI August 1984	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return, CWIP
26 84-122-E August 1984	Carolina Power & Light Company	South Carolina	South Carolina Consumer Advocate	Rate of Return, CWIP, load forecasting
27 CGC-83-G & CGC-84-G October 1984	Columbia Gas of Ohio	Ohio	Ohio Division of Energy	Load forecasting
28 R-842621 October 1984	Western Pennsylvania Water Company	Pennsylvania	Office of Consumer Advocate	Test year sales
29 R-842710 January 1985	ALLTEL Pennsylvania Inc	Pennsylvania	Office of Consumer Advocate	Rate of Return
30 ER-504 February 1985	Allegheny Generating Company	FERC	Office of Consumer Advocate	Rate of Return

Expert Testimony  
of Matthew J. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
31 R-842632 March 1985	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, conservation, time-of-use rates
32 83-0537 & 84-0555 April 1985	Commonwealth Edison Company	Illinois	U.S. Department of Energy	Rate of Return, incentive rates, rate base
33 Rulemaking Docket No. 11, May 1985	Generic	Delaware	Delaware Commission Staff	Interest rates on refunds
34 29450 July 1985	Oklahoma Gas & Electric Company	Oklahoma	Oklahoma Attorney General	Rate of Return, CWIP in rate base
35 1811 August 1985	Bristol County Water Company	Rhode Island	Division of Public Utilities	Rate of Return, capital Structure
36 R-850044 & R-850045 August 1985	Quaker State & Continental Telephone Companies	Pennsylvania	Office of Consumer Advocate	Rate of Return
37 R-850174 November 1985	Philadelphia Suburban Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, financial conditions
38 U-1006-265 March 1986	Idaho Power Company	Idaho	U.S. Department of Energy	Power supply costs and models
39 EL-86-37 & EL-86-38 September 1986	Allegheny Generating Company	FERC	PA Office of Consumer Advocate	Rate of Return
40 R-850287 June 1986	National Fuel Gas Distribution Corp.	Pennsylvania	Office of Consumer Advocate	Rate of Return
41 1849 August 1986	Blackstone Valley Electric	Rhode Island	Division of Public Utilities	Rate of Return, financial condition
42 86-297-GA-AIR November 1986	East Ohio Gas Company	Ohio	Ohio Consumers' Counsel	Rate of Return
43 U-16945 December 1986	Louisiana Power & Light Company	Louisiana	Public Service Commission	Rate of Return, rate phase-in plan
44 Case No 7972 February 1987	Potomac Electric Power Company	Maryland	Commission Staff	Generation capacity planning, purchased power contract
45 EL-86-58 & EL-86-59 March 1987	System Energy Resources and Middle South Services	FERC	Louisiana PSC	Rate of Return

Expert Testimony  
 of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
46. ER-87-72-001 April 1987	Orange & Rockland	FERC	PA Office of Consumer Advocate	Rate of Return
47. U-16945 April 1987	Louisiana Power & Light Company	Louisiana	Commission Staff	Revenue requirement update phase-in plan
48. P-870196 May 1987	Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Cogeneration contract
49. 86-2025-EL-AIR June 1987	Cleveland Electric Illuminating Company	Ohio	Ohio Consumers' Counsel	Rate of Return
50. 86-2026-EL-AIR June 1987	Toledo Edison Company	Ohio	Ohio Consumers' Counsel	Rate of Return
51. 87-4 June 1987	Delmarva Power & Light Company	Delaware	Commission Staff	Cogeneration/small power
52. 1872 July 1987	Newport Electric Company	Rhode Island	Commission Staff	Rate of Return
53. WO 8606654 July 1987	Atlantic City Sewerage Company	New Jersey	Resorts International	Financial condition
54. 7510 August 1987	West Texas Utilities Company	Texas	Federal Executive Agencies	Rate of Return, phase-in
55. 8063 Phase I October 1987	Potomac Electric Power Company	Maryland	Power Plant Research Program	Economics of power plant site selection
56. 00439 November 1987	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Cogeneration economics
57. RP-87-103 February 1988	Panhandle Eastern Pipe Line Company	FERC	Indiana Utility Consumer Counselor	Rate of Return
58. EC-88-2-000 February 1988	Utah Power & Light Co PacifiCorp	FERC	Nucor Steel	Merger economics
59. 87-0427 February 1988	Commonwealth Edison Company	Illinois	Federal Executive Agencies	Financial projections
60. 870840 February 1988	Philadelphia Suburban Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return

Expert Testimony  
of Matthew J. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
61. 870832 March 1988	Columbia Gas of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Rate of Return
62. 8063 Phase II July 1988	Potomac Electric Power Company	Maryland	Power Plant Research Program	Power supply study
63. 8102 July 1988	Southern Maryland Electric Cooperative	Maryland	Power Plant Research Program	Power supply study
64. 10105 August 1988	South Central Bell Telephone Co	Kentucky	Attorney General	Rate of Return, incentive regulation
65. 00345 August 1988	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Need for power
66. U-17906 September 1988	Louisiana Power & Light Company	Louisiana	Commission Staff	Rate of Return, nuclear power costs Industrial contracts
67. 88-170-EL-AIR October 1988	Cleveland Electric Illuminating Co.	Ohio	Northeast-Ohio Area-wide Coordinating Agency	Economic impact study
68. 1914 December 1988	Providence Gas Company	Rhode Island	Commission Staff	Rate of Return
69. U-12636 & U-17649 February 1989	Louisiana Power & Light Company	Louisiana	Commission Staff	Disposition of litigation proceeds
70. 00345 February 1989	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Load forecasting
71. RP88-209 March 1989	Natural Gas Pipeline of America	FERC	Indiana Utility Consumer Counselor	Rate of Return
72. 8425 March 1989	Houston Lighting & Power Company	Texas	U.S. Department of Energy	Rate of Return
73. EL89-30-000 April 1989	Central Illinois Public Service Company	FERC	Soyland Power Coop, Inc.	Rate of Return
74. R-891208 May 1989	Pennsylvania American Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
75 89-0033 May 1989	Illinois Bell Telephone Company	Illinois	Citizens Utility Board	Rate of Return
76 881167-EI May 1989	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return
77 R-891218 July 1989	National Fuel Gas Distribution Company	Pennsylvania	Office of Consumer Advocate	Sales forecasting
78 8063, Phase III Sept. 1989	Potomac Electric Power Company	Maryland	Depart. Natural Resources	Emissions Controls
79 37414-S2 October 1989	Public Service Company of Indiana	Indiana	Utility Consumer Counselor	Rate of Return, DSM, off-system sales, incentive regulation
80 October 1989	Generic	U S House of Reps Comm. on Ways & Means	NA	Excess deferred income tax
81 38728 November 1989	Indiana Michigan Power Company	Indiana	Utility Consumer Counselor	Rate of Return
82 RP89-49-000 December 1989	National Fuel Gas Supply Corporation	FERC	PA Office of Consumer Advocate	Rate of Return
83 R-891364 December 1989	Philadelphia Electric Company	Pennsylvania	PA Office of Consumer Advocate	Financial impacts (surrebuttal only)
84 RP89-160-000 January 1990	Trunkline Gas Company	FERC	Indiana Utility Consumer Counselor	Rate of Return
85 EL90-16-000 November 1990	System Energy Resources, Inc.	FERC	Louisiana Public Service Commission	Rate of Return
86 89-624 March 1990	Bell Atlantic	FCC	PA Office of Consumer Advocate	Rate of Return
87 8245 March 1990	Potomac Edison Company	Maryland	Depart. Natural Resources	Avoided Cost
88 000586 March 1990	Public Service Company of Oklahoma	Oklahoma	Smith Cogeneration Mgmt	Need for Power

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
89. 38868 March 1990	Indianapolis Water Company	Indiana	Utility Consumer Counselor	Rate of Return
90. 1946 March 1990	Blackstone Valley Electric Company	Rhode Island	Division of Public Utilities	Rate of Return
91. 000776 April 1990	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration Mgmt.	Need for Power
92. 890366 May 1990, December 1990	Metropolitan Edison Company	Pennsylvania	Office of Consumer Advocate	Competitive Bidding Program Avoided Costs
93. EC-90-10-000 May 1990	Northeast Utilities	FERC	Maine PUC, et al.	Merger, Market Power, Transmission Access
94. ER-891109125 July 1990	Jersey Central Power & Light	New Jersey	Rate Counsel	Rate of Return
95. R-901670 July 1990	National Fuel Gas Distribution Corp.	Pennsylvania	Office of Consumer Advocate	Rate of Return Test year sales
96. 8201 October 1990	Delmarva Power & Light Company	Maryland	Depart. Natural Resources	Competitive Bidding, Resource Planning
97. EL90-45-000 April 1991	Entergy Services, Inc.	FERC	Louisiana PSC	Rate of Return
98. GR90080786J January 1991	New Jersey Natural Gas	New Jersey	Rate Counsel	Rate of Return
99. 90-256 January 1991	South Central Bell Telephone Company	Kentucky	Attorney General	Rate of Return
100. U-17949A February 1991	South Central Bell Telephone Company	Louisiana	Louisiana PSC	Rate of Return
101. ER90091090J April 1991	Atlantic City Electric Company	New Jersey	Rate Counsel	Rate of Return
102. 8241, Phase I April 1991	Baltimore Gas & Electric Company	Maryland	Dept of Natural Resources	Environmental controls

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
103. 8241, Phase II May 1991	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	Need for Power, Resource Planning
104. 39128 May 1991	Indianapolis Water Company	Indiana	Utility Consumer Counselor	Rate of Return, rate base, financial planning
105. P-900485 May 1991	Duquesne Light Company	Pennsylvania	Office of Consumer Advocate	Purchased power contract and related ratemaking
106. G900240 P910502 May 1991	Metropolitan Edison Company Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Purchased power contract and related ratemaking
107. GR901213915 May 1991	Elizabethtown Gas Company	New Jersey	Rate Counsel	Rate of Return
108. 91-5032 August 1991	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return
109. EL90-48-000 November 1991	Entergy Services	FERC	Louisiana PSC	Capacity transfer
110. 000662 September 1991	Southwestern Bell Telephone	Oklahoma	Attorney General	Rate of Return
111. U-19236 October 1991	Arkansas Louisiana Gas Company	Louisiana	Louisiana PSC Staff	Rate of Return
112. U-19237 December 1991	Louisiana Gas Service Company	Louisiana	Louisiana PSC Staff	Rate of Return
113. ER91030356J October 1991	Rockland Electric Company	New Jersey	Rate Counsel	Rate of Return
114. GR91071243J February 1992	South Jersey Gas Company	New Jersey	Rate Counsel	Rate of Return
115. GR91081393J March 1992	New Jersey Natural Gas Company	New Jersey	Rate Counsel	Rate of Return
116. P-870235 et al March 1992	Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Cogeneration contracts

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
117. 8413 March 1992	Potomac Electric Power Company	Maryland	Dept. of Natural Resources	IPP purchased power contracts
118. 39236 March 1992	Indianapolis Power & Light Company	Indiana	Utility Consumer Counselor	Least-cost planning Need for power
119. R-912164 April 1992	Equitable Gas Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
120. ER-91111698J May 1992	Public Service Electric & Gas Company	New Jersey	Rate Counsel	Rate of Return
121. U-19631 June 1992	Trans Louisiana Gas Company	Louisiana	PSC Staff	Rate of Return
122. ER-91121820J July 1992	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Rate of Return
123. R-00922314 August 1992	Metropolitan Edison Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
124. 92-049-05 September 1992	US West Communications	Utah	Committee of Consumer Services	Rate of Return
125. 92PUE0037 September 1992	Commonwealth Gas Company	Virginia	Attorney General	Rate of Return
126. EC92-21-000 September 1992	Entergy Services, Inc.	FERC	Louisiana PSC	Merger Impacts (Affidavit)
127. ER92-341-000 December 1992	System Energy Resources	FERC	Louisiana PSC	Rate of Return
128. U-19904 November 1992	Louisiana Power & Light Company	Louisiana	Staff	Merger analysis, competition competition issues
129. 8473 November 1992	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	QF contract evaluation
130. IPC-E-92-25 January 1993	Idaho Power Company	Idaho	Federal Executive Agencies	Power Supply Clause

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
131. E002/GR-92-1185 February 1993	Northern States Power Company	Minnesota	Attorney General	Rate of Return
132. 92-102, Phase II March 1992	Central Maine Power Company	Maine	Staff	QF contracts prudence and procurements practices
133. EC92-21-000 March 1993	Energy Corporation	FERC	Louisiana PSC	Merger Issues
134. 8489 March 1993	Delmarva Power & Light Company	Maryland	Dept. of Natural Resources	Power Plant Certification
135. 11735 April 1993	Texas Electric Utilities Company	Texas	Federal Executives Agencies	Rate of Return
136. 2082 May 1993	Providence Gas Company	Rhode Island	Division of Public Utilities	Rate of Return
137. P-00930715 December 1993	Bell Telephone Company of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Rate of Return, Financial Projections, Bell/TCI merger
138. R-00932670 February 1994	Pennsylvania-American Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
139. 8583 February 1994	Conowingo Power Company	Maryland	Dept. of Natural Resources	Competitive Bidding for Power Supplies
140. E-015/GR-94-001 April 1994	Minnesota Power & Light Company	Minnesota	Attorney General	Rate of Return
141. CC Docket No. 94-1 May 1994	Generic Telephone	FCC	MCI Comm. Corp.	Rate of Return
142. 92-345, Phase II June 1994	Central Maine Power Company	Maine	Advocacy Staff	Price Cap Regulation Fuel Costs
143. 93-11065 April 1994	Nevada Power Company	Nevada	Federal Executive Agencies	Rate of Return
144. 94-0065 May 1994	Commonwealth Edison Company	Illinois	Federal Executive Agencies	Rate of Return
145. GR94010002J June 1994	South Jersey Gas Company	New Jersey	Rate Counsel	Rate of Return

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
146. WR94030059 July 1994	New Jersey-American Water Company	New Jersey	Rate Counsel	Rate of Return
147. RP91-203-000 June 1994	Tennessee Gas Pipeline Company	FERC	Customer Group	Environmental Externalities (oral testimony only)
148. ER94-998-000 July 1994	Ocean State Power	FERC	Boston Edison Company	Rate of Return
149. R-00942986 July 1994	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, Emission Allowances
150. 94-121 August 1994	South Central Bell Telephone Company	Kentucky	Attorney General	Rate of Return
151. 35854-S2 November 1994	PSI Energy, Inc.	Indiana	Utility Consumer Counsel	Merger Savings and Allocations
152. IPC-E-94-5 November 1994	Idaho Power Company	Idaho	Federal Executive Agencies	Rate of Return
153. November 1994	Edmonton Water	Alberta, Canada	Regional Customer Group	Rate of Return (Rebuttal Only)
154. 90-256 December 1994	South Central Bell Telephone Company	Kentucky	Attorney General	Incentive Plan True-Ups
155. U-20925 February 1995	Louisiana Power & Light Company	Louisiana	PSC Staff	Rate of Return Industrial Contracts Trust Fund Earnings
156. R-00943231 February 1995	Pennsylvania-American Water Company	Pennsylvania	Consumer Advocate	Rate of Return
157. 8678 March 1995	Generic	Maryland	Dept. Natural Resources	Electric Competition Incentive Regulation (oral only)
158. R-000943271 April 1995	Pennsylvania Power & Light Company	Pennsylvania	Consumer Advocate	Rate of Return Nuclear decommissioning Capacity Issues
159. U-20925 May 1995	Louisiana Power & Light Company	Louisiana	Commission Staff	Class Cost of Service Issues

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
160 2290 June 1995	Narragansett Electric Company	Rhode Island	Division Staff	Rate of Return
161. U-17949E June 1995	South Central Bell Telephone Company	Louisiana	Commission Staff	Rate of Return
162. 2304 July 1995	Providence Water Supply Board	Rhode Island	Division Staff	Cost recovery of Capital Spending Program
163. ER95-625-000 et al. August 1995	PSI Energy, Inc	FERC	Office of Utility Consumer Counselor	Rate of Return
164 P-00950915 et al. September 1995	Paxton Creek Cogeneration Assoc	Pennsylvania	Office of Consumer Advocate	Cogeneration Contract Amendment
165. 8702 September 1995	Potomac Edison Company	Maryland	Dept. of Natural Resources	Allocation of DSM Costs (oral only)
166. ER95-533-001 September 1995	Ocean State Power	FERC	Boston Edison Co	Cost of Equity
167 40003 November 1995	PSI Energy, Inc.	Indiana	Utility Consumer Counselor	Rate of Return Retail wheeling
168. P-55, SUB 1013 January 1996	BellSouth	North Carolina	AT&T	Rate of Return
169 P-7, SUB 825 January 1996	Carolina Tel	North Carolina	AT&T	Rate of Return
170 February 1996	Generic Telephone	FERC	MCI	Cost of capital
171. 95A-531EG April 1996	Public Service Company of Colorado	Colorado	Federal Executive Agencies	Merger issues
172. ER96-399-000 May 1996	Northern Indiana Public Service Company	FERC	Indiana Office of Utility Consumer Counselor	Cost of capital
173. 8716 June 1996	Delmarva Power & Light Company	Maryland	Dept. of Natural Resources	DSM programs
174 8725 July 1996	BGE/PEPCO	Maryland	Md. Energy Admin	Merger Issues

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
175 U-20925 August 1996	Energy Louisiana, Inc.	Louisiana	PSC Staff	Rate of Return Allocations Fuel Clause
176 EC96-10-000 September 1996	BGE/PEPCO	FERC	Md. Energy Admin.	Merger issues competition
177 EL95-53-000 November 1996	Entergy Services, Inc.	FERC	Louisiana PSC	Nuclear Decommissioning
178 WR96100768 March 1997	Consumers NJ Water Company	New Jersey	Ratepayer Advocate	Cost of Capital
179 WR96110818 April 1997	Middlesex Water Co.	New Jersey	Ratepayer Advocate	Cost of Capital
180 U-11366 April 1997	Ameritech Michigan	Michigan	MCI	Access charge reform/financial condition
181 97-074 May 1997	BellSouth.	Kentucky	MCI	Rate Rebalancing financial condition
182 2540 June 1997	New England Power	Rhode Island	PUC Staff	Divestiture Plan
183 96-336-TP-CSS June 1997	Ameritech Ohio	Ohio	MCI	Access Charge reform Economic impacts
184 WR97010052 July 1997	Maxim Sewerage Corp.	New Jersey	Ratepayer Advocate	Rate of Return
185 97-300 August 1997	LG&E/KU	Kentucky	Attorney General	Merger Plan
186 Case No. 8738 August 1997	Generic (oral testimony only)	Maryland	Dept. of Natural Resources	Electric Restructuring Policy
187 Docket No. 2592 September 1997	Eastern Utilities	Rhode Island	PUC Staff	Generation Divestiture
188 Case No. 97-247 September 1997	Cincinnati Bell Telephone	Kentucky	MCI	Financial Condition

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
189. Docket No U-20925 November 1997	Energy Louisiana	Louisiana	PSC Staff	Rate of Return
190. Docket No D97.7.90 November 1997	Montana Power Co	Montana	Montana Consumers Council	Stranded Cost
191. Docket No EO97070459 November 1997	Jersey Central Power & Light Co	New Jersey	Ratepayer Advocate	Stranded Cost
192. Docket No R-00974.104 November 1997	Duquesne Light Co.	Pennsylvania	Office of Consumer Advocate	Stranded Cost
193. Docket No. R-0097398.1 November 1997	West Penn Power Co.	Pennsylvania	Office of Consumer Advocate	Stranded Cost
194. Docket No. A-1101150F0015 November 1997	Allegheny Power System DQE, Inc.	Pennsylvania	Office of Consumer Advocate	Merger Issues
195. Docket No WR97080615 January 1998	Consumers NJ Water Company	New Jersey	Ratepayer Advocate	Rate of Return
196. Docket No R-00974.149 January 1998	Pennsylvania Power Company	Pennsylvania	Office of Consumer Advocate	Stranded Cost
197. Case No 8774 January 1998	Allegheny Power System DQE, Inc.	Maryland	Dept. of Natural Resources MD Energy Administration	Merger Issues
198. Docket No. U-20925 (SC) March 1998	Entergy Louisiana, Inc	Louisiana	Commission Staff	Restructuring, Stranded Costs, Market Prices
199. Docket No. U-22092 (SC) March 1998	Entergy Gulf States, Inc	Louisiana	Commission Staff	Restructuring, Stranded Costs, Market Prices
200. Docket Nos. U-22092 (SC) and U-20925(SC) May 1998	Entergy Gulf States and Entergy Louisiana	Louisiana	Commission Staff	Standby Rates
201. Docket No. WR98010015 May 1998	NJ American Water Co	New Jersey	Ratepayer Advocate	Rate of Return
202. Case No. 8794 December 1998	Baltimore Gas & Electric Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
203. Case No. 8795 December 1998	Delmarva Power & Light Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan
204. Case No. 8797 January 1998	Potomac Edison Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan
205. Docket No. WR98090795 March 1999	Middlesex Water Co.	New Jersey	Ratepayer Advocate	Rate of Return
206. Docket No. 99-02-05 April 1999	Connecticut Light & Power	Connecticut	Attorney General	Stranded Costs
207. Docket No. 99-03-04 May 1999	United Illuminating Company	Connecticut	Attorney General	Stranded Costs
208. Docket No. U-20925 (FRP) June 1999	Entergy Louisiana, Inc.	Louisiana	Staff	Capital Structure
209. Docket No. EC-98-40-000, et al. May 1999	American Electric Power/ Central & Southwest	FERC	Arkansas PSC	Market Power Mitigation
210. Docket No. 99-03-35 July 1999	United Illuminating Company	Connecticut	Attorney General	Restructuring
211. Docket No. 99-03-36 July 1999	Connecticut Light & Power Co.	Connecticut	Attorney General	Restructuring
212. WR99040249 Oct 1999	Environmental Disposal Corp.	New Jersey	Ratepayer Advocate	Rate of Return
213. 2930 Nov. 1999	NEES/EUA	Rhode Island	Division Staff	Merger/Cost of Capital
214. DE99-099 Nov. 1999	Public Service New Hampshire	New Hampshire	Consumer Advocate	Cost of Capital Issues
215. 00-01-11 Feb 2000	Con Ed/NU	Connecticut	Attorney General	Merger Issues
216. Case No. 8821 May 2000	Reliant/ODEC	Maryland	Dept. of Natural Resources	Need for Power/Plant Operations

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
217 Case No. 8738 July 2000	Generic	Maryland	Dept. of Natural Resources	DSM Funding
218 Case No. U-23356 June 2000	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Fuel Prudence Issues Purchased Power
219 Case No. 21453, et al July 2000	SWEPSCO	Louisiana	PSC Staff	Stranded Costs
220 Case No. 20925 (B) July 2000	Entergy Louisiana	Louisiana	PSC Staff	Purchase Power Contracts
221 Case No. 24889 August 2000	Entergy Louisiana	Louisiana	PSC Staff	Purchase Power Contracts
222 Case No. 21453, et al February 2001	CLECO	Louisiana	PSC Staff	Stranded Costs
223 P-00001860 and P-0000181 March 2001	GPU Companies	Pennsylvania	Office of Consumer Advocate	Rate of Return
224 CVOL-0505662-S March 2001	ConEd/NU	Connecticut Superior Court	Attorney General	Merger (Affidavit)
225 U-20925 (SC) March 2001	Entergy Louisiana	Louisiana	PSC Staff	Stranded Costs
226 U-22092 (SC) March 2001	Entergy Gulf States	Louisiana	PSC Staff	Stranded Costs
227 U-25533 May 2001	Entergy Louisiana/ Gulf States	Louisiana Interruptible Service	PSC Staff	Purchase Power
228 P-00011872 May 2001	Pike County Pike	Pennsylvania	Office of Consumer Advocate	Rate of Return
229 8893 July 2001	Baltimore Gas & Electric Co	Maryland	MD Energy Administration	Corporate Restructuring
230 8890 September 2001	Potomac Electric/Connectivity	Maryland	MD Energy Administration	Merger Issues

Expert Testimony  
of Matthew J. Kahal

Docket Number	Utility	Jurisdiction	Client	Subject
231. U-25533 August 2001	Energy Louisiana / Gulf States	Louisiana	Staff	Purchase Power Contracts
232. U-25965 November 2001	Generic	Louisiana	Staff	RTO Issues
233. 3401 March 2002	New England Gas Co.	Rhode Island	Division of Public Utilities	Rate of Return
234. 99-833-MJR April 2002	Illinois Power Co.	U.S. District Court	U.S. Department of Justice	New Source Review
235. U-25533 March 2002	Energy Louisiana/ Gulf States	Louisiana	PSC Staff	Nuclear Uprates Purchase Power
236. P-00011872 May 2002	Pike County Power & Light	Pennsylvania	Consumer Advocate	POLR Service Costs
237. U-26361, Phase I May 2002	Energy Louisiana/ Gulf States	Louisiana	PSC Staff	Purchase Power Cost Allocations
238. R-00016849C001 et al. June 2002	Generic	Pennsylvania	Pennsylvania OCA	Rate of Return
239. U-26361, Phase II July 2002	Energy Louisiana/ Energy Gulf States	Louisiana	PSC Staff	Purchase Power Contracts
240. U-20925(B) August 2002	Energy Louisiana	Louisiana	PSC Staff	Tax Issues
241. U-26531 October 2002	SWEPCO	Louisiana	PSC Staff	Purchase Power Contract
242. 8936 October 2002	Delmarva Power & Light	Maryland	Energy Administration Dept. Natural Resources	Standard Offer Service
243. U-25965 November 2002	SWEPCO/AEP	Louisiana	PSC Staff	RTO Cost/Benefit
244. 8908 Phase I November 2002	Generic	Maryland	Energy Administration Dept. Natural Resources	Standard Offer Service
245. 02S-315EG November 2002	Public Service Company of Colorado	Colorado	Fed. Executive Agencies	Rate of Return

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
246. EL02-111-000 December 2002	PJM/MISO	FERC	MD PSC	Transmission Rate-making
247. 02-0479 February 2003	Commonwealth Edison	Illinois	Dept. of Energy	POLR Service
248. PL03-1-000 March 2003	Generic	FERC	NASUCA	Transmission Pricing (Affidavit)
249. U-27136 April 2003	Entergy Louisiana	Louisiana	Staff	Purchase Power Contracts
250. 8908 Phase II July 2003	Generic	Maryland	Energy Administration Dept. of Natural Resources	Standard Offer Service
251. U-27192 June 2003	Entergy Louisiana and Gulf States	Louisiana	L.PSC Staff	Purchase Power Contract Cost Recovery
252. C2-99-1181 October 2003	Ohio Edison Company	U S District Court	U S Department of Justice, et al	Clean Air Act Compliance Economic Impact (Report)
253. RP03-398-000 December 2003	Northern Natural Gas Co	FERC	Municipal Distributors Group/Gas Task Force	Rate of Return
254. 8738 December 2003	Generic	Maryland	Energy Admin Department of Natural Resources	Environmental Disclosure (oral only)
255. U-27136 December 2003	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Purchase Power Contracts
256. U-27192, Phase II October/December 2003	Entergy Louisiana & Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contracts
257. WC Docket 03-173 December 2003	Generic	FCC	MCI	Cost of Capital (TELRIC)
258. ER 030 20110 January 2004	Atlantic City Electric	New Jersey	Ratepayer Advocate	Rate of Return
259. E-01345A-03-0437 January 2004	Arizona Public Service Company	Arizona	Federal Executive Agencies	Rate of Return
260. 03-10001 January 2004	Nevada Power Company	Nevada	U.S Dept. of Energy	Rate of Return

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
261	R-00049255 June 2004 PPL Elec. Utility	Pennsylvania	Office of Consumer Advocate	Rate of Return
262.	U-20925 July 2004 Entergy Louisiana, Inc.	Louisiana	PSC Staff	Rate of Return Capacity Resources
263	U-27866 September 2004 Southwest Electric Power Co.	Louisiana	PSC Staff	Purchase Power Contract
264	U-27980 September 2004 Cleco Power	Louisiana	PSC Staff	Purchase Power Contract
265	U-27865 October 2004 Entergy Louisiana, Inc. Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contract
266.	RP04-155 December 2004 Northern Natural Gas Company	FERC	Municipal Distributors Group/Gas Task Force	Rate of Return
267	U-27836 January 2005 Entergy Louisiana/ Gulf States	Louisiana	PSC Staff	Power plant Purchase and Cost Recovery
268	U-199040 et al February 2005 Entergy Gulf States/ Louisiana	Louisiana	PSC Staff	Global Settlement, Multiple rate proceedings
269	EF03070532 March 2005 Public Service Electric & Gas	New Jersey	Ratepayers Advocate	Securitization of Deferred Costs
270.	05-0159 June 2005 Commonwealth Edison	Illinois	Department of Energy	POLR Service
271	U-28804 June 2005 Entergy Louisiana	Louisiana	LPSC Staff	QF Contract
272	U-28805 June 2005 Entergy Gulf States	Louisiana	LPSC Staff	QF Contract
273	05-0045-EI June 2005 Florida Power & Lt	Florida	Federal Executive Agencies	Rate of Return
274	9037 July 2005 Generic	Maryland	MD. Energy Administration	POLR Service
275	U-28155 August 2005 Entergy Louisiana Entergy Gulf States	Louisiana	LPSC Staff	Independent Coordinator of Transmission Plan

Expert Testimony  
 of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
276.	U-27866-A Southwestern Electric Power Company September 2005	Louisiana	LPSC Staff	Purchase Power Contract
277.	U-28765 Cieco Power LLC October 2005	Louisiana	LPSC Staff	Purchase Power Contract
278.	U-27469 Entergy Louisiana Entergy Gulf States October 2005	Louisiana	LPSC Staff	Avoided Cost Methodology
279.	A-313200F007 Sprint (United of PA) October 2005	Pennsylvania	Office of Consumer Advocate	Corporate Restructuring
280	EM05020106 Public Service Electric & Gas Company November 2005	New Jersey	Ratepayer Advocate	Merger Issues
281	U-28765 Cieco Power LLC December 2005	Louisiana	LPSC Staff	Plant Certification, Financing, Rate Plan
282	U-29157 Cieco Power LLC February 2006	Louisiana	LPSC Staff	Storm Damage Financing
283	U-29204 Entergy Louisiana Entergy Gulf States March 2006	Louisiana	LPSC Staff	Purchase power contracts
284	A-310325F006 Alltel March 2006	Pennsylvania	Office of Consumer Advocate	Merger, Corporate Restructuring
285	9056 Generic March 2006	Maryland	Maryland Energy Administration	Standard Offer Service Structure
286	C2-99-1182 American Electric Power Utilities April 2006	U S. District Court Southern District, Ohio	U S. Department of Justice	New Source Review Enforcement (expert report)
287	EM05121058 Atlantic City Electric April 2006	New Jersey	Ratepayer Advocate	Power plant Sale
288	ER05121018 Jersey Central Power & Light Company June 2006	New Jersey	Ratepayer Advocate	NUG Contracts Cost Recovery
289	U-21496, Subdocket C Cieco Power LLC June 2006	Louisiana	Commission Staff	Rate Stabilization Plan
290	GR0510085 Public Service Electric & Gas Company June 2006	New Jersey	Ratepayer Advocate	Rate of Return (gas services)

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
291. R-000061366 July 2006	Metropolitan Ed. Company Penn. Electric Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
292. 9064 September 2006	Generic	Maryland	Energy Administration	Standard Offer Service
293. U-29599 September 2006	Cleco Power LLC	Louisiana	Commission Staff	Purchase Power Contracts
294. WR06030257 September 2006	New Jersey American Water Company	New Jersey	Rate Counsel	Rate of Return
295. U-27866/U-29702 October 2006	Southwestern Electric Power Company	Louisiana	Commission Staff	Purchase Power/Power Plant Certification
296. 9063 October 2006	Generic	Maryland	Energy Administration Department of Natural Resources	Generation Supply Policies
297. EM06090638 November 2006	Atlantic City Electric	New Jersey	Rate Counsel	Power Plant Sale
298. C-2000065942 November 2006	Pike County Light & Power	Pennsylvania	Consumer Advocate	Generation Supply Service
299. ER06060483 November 2006	Rockland Electric Company	New Jersey	Rate Counsel	Rate of Return
300. A-110150F0035 December 2006	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues
301. U-29203, Phase II January 2007	Entergy Gulf States Entergy Louisiana	Louisiana	Commission Staff	Storm Damage Cost Allocation
302. 06-11022 February 2007	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return
303. U-29526 March 2007	Cleco Power	Louisiana	Commission Staff	Affiliate Transactions
304. P-00072245 March 2007	Pike County Light & Power	Pennsylvania	Consumer Advocate	Provider of Last Resort Service
305. P-00072247 March 2007	Duquesne Light Company	Pennsylvania	Consumer Advocate	Provider of Last Resort Service

Expert Testimony  
 of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
306. EM07010026 May 2007	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Power Plant Sale
307. U-30050 June 2007	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contract
308. U-29956 June 2007	Entergy Louisiana	Louisiana	Commission Staff	Black Start Unit
309. U-29702 June 2007	Southwestern Electric Power Company	Louisiana	Commission Staff	Power Plant Certification
310. U-29955 July 2007	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contracts
311. 2007-67 July 2007	FairPoint Communications	Maine	Office of Public Advocate	Merger Financial Issues
312. P-00072259 July 2007	Metropolitan Edison Co.	Pennsylvania	Office of Consumer Advocate	Purchase Power Contract Restructuring
313. EO07040278 September 2007	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Energy Program Financial Issues
314. U-30192 September 2007	Entergy Louisiana	Louisiana	Commission Staff	Power Plant Certification Ratemaking, Financing
315. 9117 (Phase II) October 2007	Generic (Electric)	Maryland	Energy Administration	Standard Offer Service Reliability
316. U-30050 November 2007	Entergy Gulf States	Louisiana	Commission Staff	Power Plant Acquisition
317. IPC-E-07-8 December 2007	Idaho Power Co.	Idaho	U.S. Department of Energy	Cost of Capital
318. U-30422 (Phase I) January 2008	Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contract
319. U-29702 (Phase II) February, 2008	Southwestern Electric Power Co	Louisiana	Commission Staff	Power Plant Certification
320. March 2008	Delmarva Power & Light	Delaware State Senate	Senate Committee	Wind Energy Economics
321. U-30192 (Phase II) March 2008	Entergy Louisiana	Louisiana	Commission Staff	Cash CWIP Policy, Credit Ratings
322. U-30422 (Phase II)	Entergy Gulf States - LA	Louisiana	Commission Staff	Power Plant Acquisition

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
323.	April 2008 U-29955 (Phase II) April 2008 Energy Gulf States - LA Energy Louisiana	Louisiana	Commission Staff	Purchase Power Contract
324.	GR-070110889 April 2008 New Jersey Natural Gas Company	New Jersey	Rate Counsel	Cost of Capital
325.	WR-08010020 July 2008 New Jersey American Water Company	New Jersey	Rate Counsel	Cost of Capital
326.	U-28804-A August 2008 Energy Louisiana	Louisiana	Commission Staff	Cogeneration Contract
327.	IP-99-1693C-M/S August 2008 Duke Energy Indiana	Federal District Court	U.S. Department of Justice/ Environmental Protection Agency	Clean Air Act Compliance (Expert Report)
328.	U-30670 September 2008 Energy Louisiana	Louisiana	Commission Staff	Nuclear Plant Equipment Replacement
329.	9149 October 2008 Generic	Maryland	Department of Natural Resources	Capacity Adequacy/Reliability
330.	IPC-E-08-10 October 2008 Idaho Power Company	Idaho	U.S. Department of Energy	Cost of Capital
331.	U-30727 October 2008 Cleco Power LLC	Louisiana	Commission Staff	Purchased Power Contract
332.	U-30689-A December 2008 Cleco Power LLC	Louisiana	Commission Staff	Transmission Upgrade Project
333.	IP-99-1693C-M/S February 2009 Duke Energy Indiana	Federal District Court	U.S. Department of Justice/EPA	Clean Air Act Compliance (Oral Testimony)
334.	U-30192, Phase II February 2009 Energy Louisiana, LLC	Louisiana	Commission Staff	CWIP Rate Request Plant Allocation
335.	U-28805-B February 2009 Energy Gulf States, LLC	Louisiana	Commission Staff	Cogeneration Contract
336.	P-2009-2093055, et al. May 2009 Metropolitan Edison Pennsylvania Electric	Pennsylvania	Office of Consumer Advocate	Default Service
337.	U-30958 July 2009 Cleco Power	Louisiana	Commission Staff	Purchase Power Contract
338.	EO08050326 August 2009 Jersey Central Power Light Co.	New Jersey	Rate Counsel	Demand Response Cost Recovery

Expert Testimony  
 of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
339	GR09030195 August 2009	New Jersey	New Jersey Rate Counsel	Cost of Capital
340.	U-30422-A August 2009	Louisiana	Staff	Generating Unit Purchase
341.	CV 1-99-01693 August 2009	Federal District Court – Indiana	U. S. DOJ/EPA, <i>et al.</i>	Environmental Compliance Rate Impacts (Expert Report)
342.	4065 September 2009	Rhode Island	Division Staff	Cost of Capital
343.	U-30689 September 2009	Louisiana	Staff	Cost of Capital, Rate Design, Other Rate Case Issues
344	U-31147 October 2009	Louisiana	Staff	Purchase Power Contracts
345	U-30913 November 2009	Louisiana	Staff	Certification of Generating Unit
346	M-2009-2123951 November 2009	Pennsylvania	Office of Consumer Advocate	Smart Meter Cost of Capital (Surrebuttal Only)
347.	GR09050422 November 2009	New Jersey	Rate Counsel	Cost of Capital
348	D-09-49 November 2009	Rhode Island	Division Staff	Securities Issuances
349.	U-29702, Phase II November 2009	Louisiana	Commission Staff	Cash CWIP Recovery
350	U-30981 December 2009	Louisiana	Commission Staff	Storm Damage Cost Allocation
351	U-31196 (ITA Phase) February 2010	Louisiana	Staff	Purchase Power Contract
352	ER09080668 March 2010	New Jersey	Rate Counsel	Rate of Return
353	GR 10010035 May 2010	New Jersey	Rate Counsel	Rate of Return
354	P-2010-2157862 May 2010	Pennsylvania	Consumer Advocate	Default Service Program

Expert Testimony  
of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
355	Xcel Energy 10-CV-2275 June 2010	U.S. District Court Minnesota	U.S. Dept. Justice/EPA	Clean Air Act Enforcement
356	United Water New Jersey WR09120987 June 2010	New Jersey	Rate Counsel	Rate of Return
357	Entergy Louisiana U-30192, Phase III June 2010	Louisiana	Staff	Power Plant Cancellation Costs
358	Cleco Power 31299 July 2010	Louisiana	Staff	Securities Issuances
359	EPCOR Water App. No. 1601162 July 2010	Alberta, Canada	Regional Customer Group	Cost of Capital
360	Entergy Louisiana U-31196 July 2010	Louisiana	Staff	Purchase Power Contract
361	Detroit Edison 2-10-CV-13101 August 2010	U.S. District Court Eastern Michigan	U.S. Dept. of Justice/EPA	Clean Air Act Enforcement
362	Entergy Louisiana Entergy Gulf States U-31196 August 2010	Louisiana	Staff	Generating Unit Purchase and Cost Recovery
363	Potomac Edison Company Case No. 9233 October 2010	Maryland	Energy Administration	Merger Issues
364	Pike County Light & Power 2010-2194652 November 2010	Pennsylvania	Consumer Advocate	Default Service Plan
365	Duquesne Light Company 2010-2213369 April 2011	Pennsylvania	Consumer Advocate	Merger Issues
366	Entergy Gulf States U-31841 May 2011	Louisiana	Staff	Purchase Power Agreement
367	Nevada Power 11-06006 September 2011	Nevada	U. S. Department of Energy	Cost of Capital
368	Exelon/Constellation 9271 September 2011	Maryland	MD Energy Administration	Merger Savings
369	United Water Rhode Island 4255 September 2011	Rhode Island	Division of Public Utilities	Rate of Return
370	Pike County P-2011-2252042	Pennsylvania	Consumer Advocate	Default service plan

Expert Testimony  
 of Matthew I. Kahal

<u>Docket Number</u>	<u>Utility</u>	<u>Jurisdiction</u>	<u>Client</u>	<u>Subject</u>
371 October 2011 U-32095 November 2011	Light & Power Southwestern Electric Power Company	Louisiana	Commission Staff	Wind energy contract
372. U-32031 November 2011	Entergy Gulf States Louisiana	Louisiana	Commission Staff	Purchased Power Contract
373 U-32088 January 2012	Entergy Louisiana	Louisiana	Commission Staff	Coal plant evaluation
374. R-2011-2267958 February 2012	Aqua Pa.	Pennsylvania	Office of Consumer Advocate	Cost of capital
375 P-2011-2273650 February 2012	FirstEnergy Companies	Pennsylvania	Office of Consumer Advocate	Default service plan

## DWIGHT D. ETHERIDGE

Mr. Etheridge is a principal at Exeter Associates, Inc. with twenty-three years of wide ranging experience in the electric utility industry. His areas of expertise include retail competition, energy markets, risk management and control, distributed generation, telecommunications, contract rate negotiations, rate design, cost allocation and forecasting.

His management experience includes reporting to the CEO of a western utility during electric deregulation and a merger of two utilities, advising the CEO on many topics including regulatory issues, legislative negotiations, strategic focus, decision analysis, and merger integration. He also has substantial project management experience gained as a consultant and in various progressively more responsible leadership roles in utility management.

Mr. Etheridge has extensive experience developing analytical and strategic solutions on a variety of utility issues and communicating on those issues to regulatory commissions, legislatures, senior management, board of directors and the public. He has presented expert testimony on twenty-one occasions and has acted as a spokesperson numerous times on television, radio and in print.

### Education:

B.S. (Business Administration) – University of California, Berkeley, 1985.

### Previous Employment:

- 2004-2005 - Independent Strategy and Business Consultant
- 1999-2004 - Strategic Director, Sierra Pacific Resources and its Subsidiaries
- 1986-1999 - Nevada Power Company
  - Leader of the Industry Restructuring Team
  - Director, Pricing and Economic Analysis
  - Economist
  - Load Forecast Analyst

Professional Work:

Mr. Etheridge's work at Exeter Associates, Inc. has been focused in the following areas:

Development of electricity and renewable energy procurement plans and risk management strategies for the U.S. Department of Energy's (DOE) Northern California national laboratories.

Review of utility procurement strategies for multiple U.S. Air Force bases in an effort to identify areas for potential utility cost savings.

Evaluating the need for new transmissions lines in the PJM market on behalf of a regulatory agency of the State of Maryland.

Provided analytical support to a southwestern municipal water and power utility in the areas of rate design, load forecasting, wholesale market modeling, and volatility analysis.

Review of the Regional Greenhouse Gas Initiative on behalf of a regulatory agency of the State of Maryland, and the development of technical memoranda on various carbon dioxide emissions related topics.

Development of options studies for DOE facilities that address the power supply and transmission system capabilities of potential alternative suppliers for meeting DOE's long-term electrical requirements.

Review of utility procurement strategies and development of electric and natural gas long-term avoided cost projections for several of DOE's national laboratories

As an independent consultant, Mr. Etheridge:

Led an engagement for a western consulting firm to review the load forecasting methodologies and forward price curve models employed by a southwestern municipal water and power utility and to recommend improvements.

Led an engagement for a western consulting firm to develop rate design options for a southwestern municipal water and power utility. The rate design recommendation was designed to facilitate the implementation of operational strategies and the achievement of operational savings identified in a previous consulting engagement. It was also designed to accommodate additional electrical loads if other water municipalities decided to jointly participate in wholesale markets.

Worked with a team from an international consulting firm to support a Midwest utility's effort to ensure that its accounting and rates departments were prepared for the Midwest ISO's "Day 2" market opening scheduled for March 1, 2005. The project involved developing process flows of information required by the accounting and rates departments, and significant interaction with the corporate information technology department. The project also involved reviewing rates and regulatory strategies for potential changes under the Day 2 market rules.

Prepared a competitive analysis for a Midwest utility's unregulated subsidiary on behalf of an international consulting firm. The analysis focused on comparing the subsidiary's product and service offerings, and value propositions, against those of its competitors as well as evaluating the dynamics occurring within the various market segments.

Led an engagement for a western consulting firm to identify strategies for maximizing the savings potential of switching electricity suppliers for a southwestern municipal water and power utility. The economic analyses developed as part of the engagement identified multi-million dollar savings potential that could be achieved over ten years through changes in both suppliers and operational strategies. In addition, the client realized thousands in immediate savings from billing errors that were identified during the engagement, as well as the potential for hundreds of thousands in annual savings that could be realized through enforcement of the provisions of existing contracts.

Worked with a team from an international consulting firm to facilitate the development of a strategic plan for a western municipal power and water utility. The project included leading the utility's management team through an all-day planning session to develop divisional strategies consistent with the utility's mission statement.

As a strategic director for Sierra Pacific Resources, Mr. Etheridge:

Developed a forecasting model for power and gas prices that was capable of blending fundamentals-based power and gas price forecasts from multiple vendors while maintaining rational market implied heat rates as well as consistent relationships across various gas market centers and power trading hubs in the western U.S. The models enable forecasters to produce timely forecast updates as gas futures prices change or when vendors update their forecasts, while maintaining an easily audited trail of assumptions across forecast updates.

Developed sophisticated financial models to evaluate the ROI potential of distributed generation projects that might be deployed by large commercial and industrial customers. The models investigated gas-fired reciprocating engines and turbines, as well as multi-unit installations, varying performance characteristics and partial standby requirements. This project was undertaken in conjunction with the redesign of retail standby rates and the introduction of new interconnection rules.

Investigated the potential of using private equity partners to pursue power plant development and/or acquisition in southern Nevada, including the possibility of a public/private partnership to leverage the credit ratings of a local governmental entity.

Gained valuable indirect experience in the development and implementation of risk management and risk control procedures while working on energy supply projects during the period of time when new corporate risk policies were developed, implemented and defended in litigated proceedings.

Supported a telecommunications subsidiary by acting as the lead in the development of business plans for two metro area networks and a long-haul opportunity. Co-presented the business plans with the lead director for the subsidiary to the Board of Directors and obtained the required initial funding of \$44 million.

Supported a telecommunications subsidiary by acting as the lead in the development of a fiber-to-the-home business plan with an external team of consultants. The plan addressed the feasibility of multiple bundled service offerings and a targeted deployment in several western markets. Participated in negotiations with subsidiary management and multiple potential partners, including service providers with a national footprint, technology partners and content providers. The plan was tabled when key partnership agreements could not be put in place to pursue a "beta" test of the technology and business model.

Participated on the team that developed a successful bid for a northwest electric utility, including due diligence, management presentations by the company being acquired, and strategy discussions with the CEO and financial advisors.

As leader of the industry restructuring team at Nevada Power Company, Mr. Etheridge:

Reported to the CEO and led an internal team of directors assigned full-time to electric industry restructuring. Directed and managed the team's development and presentation of company positions on restructuring to the Public Utilities Commission of Nevada ("PUCN") and to the Nevada Legislature.

Presented expert testimony before the PUCN and the Nevada Legislature. Was responsible for hiring multiple consultants and expert witnesses to facilitate the development of corporate strategy and to support the presentation of positions before the PUCN. In this assignment, represented the company on multiple occasions on television, taped and live radio, in press conferences and interviews, in consumer focus groups, and in presentations to large commercial and industrial customers.

As a member of the CEO's staff, participated in senior management discussions on corporate strategy prior to the merger announcement and throughout the merger integration process, including development of corporate strategy and business line focus for the combined company.

One of only several advisors to the CEO that directly participated with the CEOs from both Nevada Power and Sierra Pacific Resources in the final legislative negotiations on the merger and associated restructuring legislation.

In his other assignments at Nevada Power Company, Mr. Etheridge:

Directed a department responsible for rate design studies, marginal cost of service studies, the annualization of sales and revenues for general rate case applications, demand-side pricing, economic and load forecasting, tariff administration, wholesale pricing, and development of supporting testimony in these areas. Built a cohesive, progressive thinking team of experts that was well recognized throughout the company.

Made multiple presentations to executives and groups of large commercial and industrial customers on a variety of industry issues.

Represented the company in negotiations with customers considering alternative sources of supply. Negotiated an 8-year retail power purchase contract with Mirage Resorts, Incorporated to keep them from building a distributed generation project. Regularly briefed the Board of Directors during negotiations and gained Board approval for the final contract. Acted as a spokesperson on television and in the press on this highly publicized contract.

Acted as the lead in the development of economic forecasts, econometric load forecasts, weather normalization of sales and peak demand, short-term sales forecasts and testimony in these areas.

Expert Testimony:

Before the Public Utilities Commission of Nevada, Docket No. 06-11022 (March 2007), on behalf of the U.S. Department of Energy. Testimony addressed Nevada Power Company's proposed class revenue requirement allocation with respect to DOE's Nevada Test Site and the U.S. Air Force's Nellis Air Force Base.

Before the Public Utilities Commission of Nevada in Nevada Power's last deferred energy case before a rate freeze, Docket No. 99-7035, February 2000. Rebuttal testimony addressed the issue of splitting purchased power capacity payments out of deferred energy cases and into general rate cases for cost recovery purposes.

Before the Nevada Legislature, Senate Commerce and Labor Committee, March 1999. Testimony responded to questions on deregulation.

Before the Public Utilities Commission of Nevada in Nevada Power's application to provide potentially competitive services as part of industry restructuring, Docket No. 98-12009, June 1999 and December 1998. Testimony addressed steps being taking to establish an arms length affiliate to provide potentially competitive services.

Before the Public Utilities Commission of Nevada in the PUCN's Investigation of Issues to be Considered as a Result of Restructuring of the Electric Industry (pursuant to Assembly Bill 366), Docket No. 97-8001, September 1997. Testimony addressed Nevada Power's efforts to address restructuring issues and cost unbundling issues.

Before the Public Utilities Commission of Nevada in a deferred energy case, Docket No. 97-7030, July 1997. Testimony addressed matching deferred energy rates with rapidly changing deferred energy balances given upward swings in market prices for fuel and purchased energy.

Before the Nevada Legislature, Senate Commerce and Labor Committee, February 1997. Testimony addressed rates during hearings on deregulation.

Before the Public Service Commission of Nevada in a gas utility's filing for approval of a residential gas air conditioning rate schedule, Docket No. 96-10005, February 1997. Testimony on behalf of Nevada Power addressed the potential benefits of pricing strategies that support technological innovation.

Before the Public Service Commission of Nevada in a deferred energy case and request to move capacity costs into general rates, Docket No. 96-7020, July 1996. Testimony addressed competition, marginal costs, confidentiality issues, and rate design in support of the largest ever-proposed rate reductions for large customers.

Before the Public Service Commission of Nevada in support of proposed line extension policies, Docket No. 95-6076, February 1996. Testimony addressed line extension policies in light of competition and marginal costs.

Before the Public Service Commission of Nevada in a proposed rate schedule in response to the Department of Energy's (DOE) competitive solicitation for the Nevada Test Site, Docket No. 95-8038, November 1995 and January 1996. Direct and supplemental testimony addressed a proposal to serve the Test Site under a new partial requirements rate schedule. The case was withdrawn when DOE did not award contracts.

Before the Public Service Commission of Nevada in a deferred energy case, Docket No. 95-7021, July 1995 and November 1995. Direct testimony and supplemental testimony addressed a request to implement improved cost allocation procedures for calculating base tariff energy rates across rate classes.

Before the Public Service Commission of Nevada in an application for approval of a negotiated service agreement with Mirage Resorts, Incorporated, Docket No. 95-4061, July 1995. Testimony addressed competition, and the negotiations and cost studies that supported the service agreement.

Before the Public Service Commission of Nevada in an application for approval of a resource plan, Docket No. 94-7001, February 1995. Testimony addressed load forecasting, competition, long-term avoided costs and econometric modeling.

Before the Public Service Commission of Nevada in a proposed line extension rules, Docket No. 94-4085, October 1994. Testimony addressed marginal costs relative to line extensions and in total.

Before the Public Service Commission of Nevada in an application for approval of a resource plan, Docket No. 94-7001, July 1994 and August 1994. Direct and supplemental testimony addressed economic and load forecasting issues.

Before the Public Service Commission of Nevada in an over-earnings investigation, Docket No. 93-11045, June 1994. Direct and supplemental testimony addressed rate design and cost of service.

Before the Public Service Commission of Nevada in a complaint case brought by a rural cooperative over service to the Department of Energy's Nevada Test Site, Docket No. 92-9055, January 1994. Testimony addressed the impact of lost sales to the Test Site on remaining retail customers.

Before the Public Service Commission of Nevada in a general rate case, Docket No. 92-1067, January 1992. Direct and rebuttal testimony addressed rate design and cost of service.

Before the Public Service Commission of Nevada in a general rate case, Docket No. 91-5055, May 1991. Testimony addressed rate design and cost of service.

Before the Public Service Commission of Nevada in an application for approval of a resource plan, Docket No. 88-701, July 1988. Testimony addressed economic and load forecasting.

## STEVEN L. ESTOMIN

Dr. Estomin is a principal in Exeter Associates, Inc. He is a senior economist whose academic training and professional experience are in the areas of microeconomic applications, industry analysis, econometric modeling and environmental economics. At Exeter, Dr. Estomin specializes in power supply procurement, utility load forecasting, regulatory policy, options analysis, utility contract negotiation, and issues of competition, antitrust, and damage estimation.

Dr. Estomin has testified on issues related to load forecasting, statistical analysis, economic damage analysis, class cost-of-service, rate design, power supply procurement, and default electric service. He has prepared numerous electric load forecasts and has directed projects for state and federal regulatory agencies. Dr. Estomin has prepared reports on load forecasting, energy conservation, alternative power supply procurement, bulk power supply planning, and damage estimations for federal and state agencies and for private firms. He has also provided technical support to federal agencies in utility contract negotiations and in the development of requests for proposals for competitive power supply procurement.

### Education:

B.A. (Economics) - University of Maryland, 1975.

M.A. (Economics) - University of Maryland, 1978.

Ph.D. (Economics) - University of Maryland, 1986.

### Previous Employment:

1980-1981 - Faculty Researcher, Bureau of Business and Economic Research, University of Maryland, College Park, Maryland.

1976-1980 - Research/Teaching Assistant, and Instructor, University of Maryland, Department of Economics, College Park, Maryland.

1976-1978 - Economist, U.S. Department of Labor, Bureau of International Labor Affairs, Office of Trade Adjustment Assistance, Washington, D.C.

Professional Work:

At the Bureau of Business and Economic Research, Dr. Estomin supervised the development of an environmental pollution forecasting model which he linked to a county level regional economic model. This task included developing submodels for industrial/commercial activity, municipal wastes generation, and transportation and energy-related emissions. Several reports and estimations using the model were provided to the Bureau of Land Management (U.S. Department of the Interior) and were used to develop analyses of future development of the outer-continental shelf.

As a Graduate Teaching Assistant for the Department of Economics at the University of Maryland, Dr. Estomin was initially engaged in aiding senior faculty members in a variety of teaching-related tasks and later autonomously taught micro and macroeconomic theory courses. As an Instructor for the University, he taught upper-level courses in the economics of poverty and discrimination and the economics of American industry. As a Graduate Research Assistant, Dr. Estomin conducted extensive research in pollution abatement cost modeling.

At the U.S. Department of Labor, Dr. Estomin collected firm-specific data covering sales, inventory, employment, and production and used these data together with industry production, employment, and import data to analyze causes of employment reductions. Companies analyzed by Dr. Estomin include American Motors Corporation, Bethlehem Steel, and numerous smaller firms.

Major Publications and Reports:

“Long-Term Electricity Report for Maryland,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources, December 2011 (with Sari Fink, Christina Mudd, and Michael Buckley of Exeter Associates, Inc.)

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland’s Natural Resources, Maryland Power Plant Research Program, PPRP-CEIR-15,” January 2010 (with Christina Mudd, Sari Fink, and Jennifer Rogers of Exeter Associates, Inc. and contributing authors from Versar, Inc. and Environmental Resources Management).

“Guidance for the Development of Renewable Energy Projects at Air Education and Training Command Bases,” prepared for the U.S. Air Force, Air Force Civil Engineer Support Center (Tyndall AFB, Florida) and the Air Education and Training Command (Randolph AFB, Texas), January 2010 (with Christina Mudd and Sari Fink).

“2009 Inventory of Renewable Energy Generators Eligible for the Maryland Renewable Energy Portfolio Standard,” prepared for the Power Plant Research Program, Maryland

Department of Natural Resources, January 2010 (with Christina Mudd and Sari Fink of Exeter Associates, Inc. and contributing authors from BCS, Inc.)

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland’s Natural Resources, Maryland Power Plant Research Program, PPRP-CEIR-14,” January 2008 (with Christina Mudd and Sari Fink of Exeter Associates, Inc. and contributing authors from Versar, Inc. and Environmental Resources Management).

“Forecasted Electric Energy Consumption and Peak Demands in Maryland,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources, November 2006 (with David Chen and Michael P. Lee).

“Maryland’s Options to Reduce and Stabilize Electric Power Prices Following Restructuring,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources and the Maryland Energy Administration, September 2006 (with Matthew I. Kahal).

“The Potential for Biomass Co-Firing in Maryland,” prepared for the Maryland Department of Natural Resources, Power Plant Research Program, March 2006 (with Christina Mudd and Michael Lee).

“Wind Power Options Assessment,” prepared for the Maryland Department of Natural Resources, Power Plant Research Program and the Maryland Energy Administration, January 2006 (with Matthew I. Kahal and Christina Mudd).

“Electric Power Supply Options for Holloman Air Force Base, New Mexico,” prepared for the U.S. Air Force, Air Force Civil Engineer Support Agency, September 2005.

“Forecast of Electric Energy Consumption and Peak Demands in Maryland,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources, May 2005.

“Economic Analysis of a Power Plant Fueled by Poultry Litter to be Located on Maryland’s Eastern Shore,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources, May 2005.

“Yucca Mountain Project – Evaluating Alternative Electric Power Service Options,” prepared for the U.S. Department of Energy, Federal Energy Management Program, August 2004.

“Short-term Steam Supply options for the Savannah River Site,” prepared for the U.S. Department of Energy, Federal Energy Management Program, June 2004.

“Assessment of Economic Damages,” prepared for Supra Telecommunications and Information Systems, Inc., CPR Institute for Arbitral Tribunal, Supra Telecommunications and

Information Systems v. BellSouth Telecommunications, Arbitration V, October 2003  
(with Marvin H. Kahn).

“Costs and Benefits for Overhead/Underground Utilities,” prepared for the Maryland State  
Highway Administration, October 2003 (with William H. Albeck).

“Economic Assessment of Damages,” prepared for Supra Telecommunications and Information  
Systems, Inc., U.S. District Court, Southern District of Florida, Case No. 99-1706, March  
2003 (with Marvin H. Kahn).

“Forecasted Electric Energy Consumption and Peak Demand in Maryland,” prepared for the  
Power Plant Research Program, Maryland Department of Natural Resources, October  
2002.

“The Technical Potential for Electric Energy Conservation in Maine,” prepared for the Maine  
Office of Consumer Advocate, September 2002.

“Energy Conservation and Efficiency Baseline,” prepared for Governor Paris N. Glendening’s  
Task Force on Energy Conservation and Efficiency, the Maryland Energy  
Administration, and the Maryland Department of Natural Resources, December 2001  
(with Allan R. Evans and Michael P. Lee).

“Alternative Electricity and Natural Gas Procurement Strategies for U.S. Department of Defense  
Installations,” prepared for the U.S. Department of Defense, Defense Logistics Agency,  
Defense Energy Support Center, July 2001 (with Richard A. Galligan).

“Electricity in Maryland Fact Book,” prepared for the Power Plant Research Program, Maryland  
Department of Natural Resources, January 2001.

“Steam Supply Options Analysis for the Savannah River Site,” prepared for the U.S. Department  
of Energy, March 2000.

“The Feasibility of a Renewables Portfolio Standard in Maryland,” prepared for the Power Plant  
Research Program, Maryland Department of Natural Resources and the Maryland Energy  
Administration, January 2000.

“Undergrounding Electric Utility Lines in Maryland,” prepared for the Maryland Energy  
Administration and the Power Plant Research Program, Maryland Department of Natural  
Resources for the Governor’s Task Force on Utility Preparedness, December 1999.

“Nevada Test Site Utility Options Study,” prepared for the U.S. Department of Energy, June  
1999.

“Spallation Neutron Source Electrical Facilities Study,” prepared for the U.S. Department of Energy, April 1999.

“Forecasted Electric Power Demands for the Delmarva Power and Light Company,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources, December 1998 (with Andrés Escalante).

“Assessment of DOD Electric Power Supply Options, Strategies, and Costs under Retail Open Access,” prepared for the U.S. Department of Defense, Office of the Deputy Under Secretary of Defense, February 1998.

“The Engineering and Economic Feasibility of Using Poultry Litter as a Fuel to Generate Electric Power at Maryland’s Eastern Correctional Institute,” prepared for the Maryland Environmental Service, February 1998 (with Gary Walters).

“Power Supply and Cogeneration Options for the Eastern Correctional Institute,” prepared for the Maryland Environmental Service,” April 1997 (with Thomas King, P.E.)

“Cooperative Integrated Resource Plan for U.S. Department of Energy Installations Having Power Allocations from the Western Area Power Administration,” prepared for the U.S. Department of Energy, June 1997.

“Cooperative Integrated Resource Plan for U.S. Navy Installations Having Power Allocations from the Western Area Power Administration,” prepared for the U.S. Navy, SOUTHWESTNAVFACENGDIV, June 1997.

“Cooperative Integrated Resource Plan for U.S. Air Force Installations Having Power Allocations from the Western Area Power Administration,” prepared for HQ AFCEA/CESE (Tyndall Air Force Base, Florida), June 1997.

“Analysis of Service Reliability -- Duquesne Light Company,” prepared for the Pennsylvania Office of Consumer Advocate, June 1997.

“Estimated Power Supply Costs for the Accelerator Production of Tritium Project,” prepared for the U.S. Department of Energy, Office of Project and Fixed Asset Management, October 1996.

“Customized Energy Conservation and Demand-Side Management Agreements between U.S. Air Force Bases and Utility Service Suppliers,” prepared for HQ AFCEA/CESE (Tyndall Air Force Base, Florida), January 1996 (with Richard I. Chais).

“Evaluating and Implementing Privatization of Utility Distribution Systems at U.S. Air Force Bases,” prepared for HQ AFCEA/CESE (Tyndall Air Force Base, Florida), December 1995 (with Richard I. Chais).

"Power Supply Options Study for Vandenberg Air Force Base," prepared for HQ AFCESA/CESE (Tyndall Air Force Base), December 1995 (with Richard Zumwalt, P.E.).

"U.S. Department of Energy Savannah River Site Power System Privatization Study," prepared for the U.S. Department of Energy, February 1995 (with Richard Zumwalt, P.E.).

"Technical Report: Special Study of the MacDill Cogeneration Project," prepared for the Department of the Air Force, Headquarters Air Combat Command, May 1994.

"The Feasibility of Centralized Purchase of Electric Utility Service," prepared for the Department of the Air Force, March 1994.

"Long Range Energy Requirements for Charleston Air Force Base," (two volumes), prepared for the Department of the Air Force, July 1994.

"Long Range Energy Requirements for Wright-Patterson Air Force Base," (three volumes) prepared for the Department of the Air Force, Headquarters Air Force Logistics Command, April 1993.

"Forecasted Electric Power Demands for the Potomac Electric Power Company," (two volumes), prepared for the Power Plant Research Division, Maryland Department of Natural Resources, March 1992 (with John E. Beach).

"Optimal Allocation of Western Area Power Administration (Billings Area) Federal Preference Power Among Ellsworth, Minot, and Offutt Air Force Bases," prepared for the U.S. Air Force, November 1991.

"Impacts of Missile Site Deactivation on Electric Power Costs," *Environmental Impact Statement -- Deactivation of the Minuteman II Missile Wing at Ellsworth Air Force Base, South Dakota*, prepared for the Department of the Air Force, Headquarters Strategic Air Command, October 1991.

"Forecasted Electric Power Demands for the Baltimore Gas and Electric Company," (two volumes), prepared for the Power Plant and Environmental Review Division, Maryland Department of Natural Resources, May 1991 (with John E. Beach).

"Forecasted Electric Power Demands for the Delmarva Power and Light Company," (two volumes), prepared for the Power Plant and Environmental Review Division, Maryland Department of Natural Resources, September 1990 (with John E. Beach).

"Year 2000 Power Supply Reliability Assessment: SERC and SPP Regions," prepared for the U.S. Air Force, August 1990 (with Dennis Goins).

"Market and Regulatory Effects of the Elimination of the Manufacturing Restriction on the Regional Bell Operating Companies," prepared for the Telecommunications Committee of the National Association of State Utility Consumer Advocates (NASUCA), November 1989.

"Alternative Electric Power Supply Sources for Onizuka Air Force Base, California," prepared for the U.S. Air Force, June 1989.

"Vandenberg Air Force Base Power Supply Study," prepared for the U.S. Air Force, March 1989.

"Forecasted Electric Power Demands for the Potomac Electric Power Company," (two volumes), prepared for the Power Plant Research Program, Maryland Department of Natural Resources, July 1988 (with Walter Asmuth, III).

"Economic Damage Estimation -- Pittcon Industries, Inc.," Exeter Associates, Inc., prepared for Pittcon Industries, Inc., February 1988 (with Marvin H. Kahn).

"Report and Recommendations of the U.S. Air Force on Adjustments to the Mather AFB Surcharge," prepared for the U.S. Air Force for submission to the Board of Directors of the Sacramento Municipal Utility District, August 1987.

"Preliminary Assessment of Options Available to the U.S. Air Force to Reduce Electric Power and Energy Costs to the Northern California Air Force Bases," Exeter Associates, Inc., prepared for the U.S. Air Force, March 1987.

"An Analysis of the Optimal Allocation of Available Western Area Power Administration Preference Power Among the Northern California Air Force Bases," Exeter Associates, Inc., prepared for the U.S. Air Force, March 1987.

"A Survey of Methods Used to Estimate Conservation Potential," Exeter Associates, Inc., prepared for the Power Plant Research Program, Maryland State Department of Natural Resources, February 1987.

"End-Use Forecasting," presentation at the Power Plant Research Program Load Forecasting Workshop, Annapolis, Maryland, January 1987 (published in proceedings volume).

"Survey and Analysis of End-Use Modeling Practices," Exeter Associates, Inc., prepared for the Power Plant Research Program, Maryland State Department of Natural Resources, October 1986.

"Economic Damage Estimation -- Yacht Buyers Group," Exeter Associates, Inc., prepared for Yacht Buyers Group, Inc., August 1986 (with Marvin H. Kahn).

"Updated Load Forecast of Energy and Peak Demand for the Allegheny Power System," Exeter Associates, Inc., prepared for the Power Plant Research Program, Maryland State Department of Natural Resources, June 1986 (with Matthew I. Kahal).

*The Determinants of Profitability and Premiums in Conglomerate Mergers*, Ph.D. dissertation, University of Maryland, 1986.

"Updated Load Forecast of Energy and Peak Demand on the Delmarva Peninsula," Exeter Associates, Inc., prepared for the Power Plant Siting Program, Maryland State Department of Natural Resources, February 1986 (with Matthew I. Kahal).

"Estimated Value of Experimental Breeder Reactor II Generation to the Idaho National Engineering Laboratory -- 1985 Through 1986," Exeter Associates, Inc., prepared for the Idaho National Engineering Laboratory, U.S. Department of Energy, January 1986.

"An Economic Estimation of Electric Power Demands for the Baltimore Gas and Electric Company," (two volumes), Exeter Associates, Inc., prepared for the Power Plant Siting Program, Maryland State Department of Natural Resources, April 1985 (with Matthew I. Kahal).

"An Assessment of the State-of-the-Art of Gas Utility Load Forecasting," (with Thomas Bacon, Jr. and Matthew I. Kahal) published in the *Proceedings of the Fourth NARUC Biennial Regulatory Information Conference*, 1984.

"Projected Electric Power Demands for the Potomac Electric Power Company," (three volumes), Exeter Associates, Inc., prepared for the Power Plant Siting Program, Maryland State Department of Natural Resources, March 1984 (with Matthew I. Kahal).

"Economic and Demographic Forecasts for the PEPCO Service Area," Exeter Associates, Inc., prepared for the Power Plant Siting Program, Maryland State Department of Natural Resources, September 1982.

"The Behavior of Regulatory Agencies," published in *Attacking Regulatory Problems: An Agenda for Research in the 1980's*. (Allen Furgeson, ed.), Ballinger Publishers, Cambridge, Massachusetts, 1981 (with Wes Magat).

"Report on the Environmental Impacts from Outer-Continental Shelf Development in the Baltimore Canyon," Bureau of Business and Economic Research, University of Maryland, prepared for the Bureau of Land Management, U.S. Department of the Interior, September 1980 (with Virginia McConnell).

"The Environmental Systems Model," Bureau of Business and Economic Research, University of Maryland, June 1980 (with Virginia McConnell).

“Economic-Environmental Models of Regional Development -- The U.S. Experience,”  
Department of Economics Working Paper 80-15, University of Maryland, November  
1979 (with John H. Cumberland and Alan Krupnick).

Expert Testimony Presented:

- Before the Pennsylvania Public Utility Commission in Docket Nos. P-2009-2135496 and G-2009-2135510, UGI Utilities, Inc., 2010, for the Pennsylvania Office of Consumer Advocate. Testified on Default Service issues.
- Before the Pennsylvania Public Utility Commission in Docket No. P-2009-2094494, PECO Energy Company, 2009, for the Pennsylvania Office of Consumer Advocate. Testified on acquisition of solar energy credits.
- Before the Pennsylvania Public Utility Commission in Docket No. P-2008-2022931, UGI Utilities, Inc., 2008, for the Pennsylvania Office of Consumer Advocate. Testified on Default Service issues.
- Before the Maryland Public Service Commission in Case No. 9117, Investigation of Investor-Owned Electric Companies’ Standard Offer Service for Residential and Small Commercial Customers in Maryland, 2008, for the Maryland Energy Administration. Testified on Standard Offer Service issues.
- Before the Pennsylvania Public Utility Commission in Docket No. P-0072305, Pennsylvania Power Company, 2007, for the Pennsylvania Office of Consumer Advocate. Testified on Default Service issues.
- Before the Maryland Public Service Commission in Case No. 9099, Baltimore Gas and Electric Company, 2007, for the Maryland Department of Natural Resources. Testified on market-related issues, Standard Offer Service prices, and Standard Offer Service Procurement Issues.
- Before the Pennsylvania Public Utility Commission in Docket No. P-00662227, PPL Electric Utilities Corporation, 2006, for the Pennsylvania Office of Consumer Advocate. Testified of Provider of Last Resort service.
- Before the Maryland Public Service Commission in Case No. 9063, Investigation into the Optimal Structure of the Electric Utility Industry in Maryland, 2006, for the Power Plant Research Program, Maryland Department of Natural Resources and the Maryland Energy Administration. Testified on standard offer service issues, customer choice, demand-side management and energy efficiency, and market-related issues.

Before the Pennsylvania Public Utility Commission in Docket No. P-00052188, Pennsylvania Power Company, 2005, for the Pennsylvania Office of Consumer Advocate. Testified on Provider of Last Resort service.

Before the Maryland Public Service Commission in Case No. 9018, Potomac Edison Company, 2005, for the Maryland Department of Natural Resources, Power Plant Research Program. Testified on jurisdictional cost impacts of proposed transmission and distribution facilities.

Before the Maine Public Utilities Commission in Docket No. 2004-339, Central Maine Power Company, 2004, for the Maine Public Advocate. Testified on sales forecasting issues.

Before the Maine Public Utilities Commission in Docket No. 2002-770, Central Maine Power Company, 2003, for the Maine Public Advocate. Testified on load forecasting issues.

Before the Maine Public Utilities Commission in Docket No. 2001-239, Bangor Hydro Electric Company, 2001, for the Maine Public Advocate. Testified on load forecasting issues.

Before the Maine Public Utilities Commission in Docket No. 2001-232, Central Maine Power Company, 2001, for the Maine Public Advocate. Testified on load forecasting issues.

Before the Kentucky Public Service Commission in Case No. 99-070, Western Kentucky Gas Company, 1999, for the Office of Rate Intervention of the Attorney General. Testified on functionalization of distribution system costs.

Before the Kentucky Public Service Commission in Case No. 99-176, Delta Natural Gas Company, Inc., 1999, for the Office of Rate Intervention of the Attorney General. Testified on functionalization of distribution system costs.

Before the Maine Public Utilities Commission in Docket No. 97-580, Central Maine Power Company, 1998, for the MPUC Staff. Testified on generation-related administrative and general expenses.

Before the Maine Public Utilities Commission in Docket No. 96-116, Bangor Hydro Electric Company, 1997, for the MPUC Staff. Testified on load forecasting issues.

Before the New Mexico Public Service Commission, El Paso Electric Company, 1996, for the U.S. Air Force. Testified on rate design issues.

Before the State of Rhode Island and Providence Plantation Public Utilities Commission in Docket No. 2290, Narragansett Electric Company, 1995, for the Division of Public Utilities and Carriers. Testified on load forecasting issues.

Before the Illinois Commerce Commission in Docket No. 94-0065, Commonwealth Edison Company, June 1994, for the U.S. Department of Energy. Testified on load forecasting.

Before the Federal Energy Regulatory Commission in Docket No. RP91-203, et al., Tennessee Gas Pipeline Company, May 1994, for the Tennessee Rate Design Customer Group. Testified on issues related to econometric analysis.

Before the Public Service Commission of the District of Columbia in Formal Case No. 926, Chesapeake and Potomac Telephone Company, September 1993, for the Office of People's Counsel. Testified on issues related to finance and statistical analysis.

Before the Public Service Commission of the District of Columbia in Formal Case No. 814, Phase III, Chesapeake and Potomac Telephone Company, October 1992, for the Office of People's Counsel. Testified on issues related to competition in the telecommunications industry.

Before the Maine Public Utilities Commission in Docket No. 92-101, Maine Public Service Company, September 1992, for the Commission Staff. Testified on load forecasting.

Before the Maryland Public Service Commission in Case No. 8413, Potomac Electric Power Company, March 1992, for the Maryland Power Plant Research Division. Testified on load forecasting.

Before the State of New Jersey Board of Regulatory Commissioners in Docket No. GF91081393J, New Jersey Natural Gas Company, March 1992, for the Division of Rate Counsel. Testified on weather normalization.

Before the State of Rhode Island and Providence Plantations Public Utilities Commission in Docket 2019, Narragansett Electric Company, November 1991, for the Division of Public Utilities and Carriers. Testified on load forecasting.

Before the Maine Public Utilities Commission in Docket No. 91-010, Bangor Hydro-Electric Company, June 1991, for the Maine Public Advocate. Testified on load forecasting.

Before the Maryland Public Service Commission in Case No. 8241, Phase II, Baltimore Gas and Electric Company, May 1991, for the Maryland Power Plant and Environmental Review Division. Testified on load forecasting.

Before the State of Rhode Island and Providence Plantations Public Utilities Commission in Docket 1976, Narragansett Electric Company, October 1990, for the Revision of Public Utilities and Carriers. Testified on load forecasting.

Before the Maryland Public Service Commission in Case No. 8201, Delmarva Power and Light Company, October 1990, for the Maryland Power Plant and Environmental Review Division. Testified on load forecasting.

Before the Maine Public Utilities Commission in Docket No. 90-076, Central Maine Power Company, September 1990, for the Maine Public Advocate. Testified on load forecasting.

Before the Public Service Commission of the District of Columbia in Formal Case No. 890, District of Columbia Natural Gas, February 1990, for the Office of People's Counsel of the District of Columbia. Testified on load forecasting.

Before the Maryland Public Service Commission in Case No. 8102, Southern Maryland Cooperative, July 1988, for the Maryland Power Plant Research Program. Testified on load forecasting.

Before the Maryland Public Service Commission in Case No. 8063 Phase II, Potomac Electric Power Company, July 1988, for the Maryland Power Plant Research Program. Testified on load forecasting.

Before the U.S. District Court for the Eastern District of Pennsylvania in Civil Action No. 87-0805, March 1988, for Pittcon Industries, Inc. Testified on economic damages.

Before the Sacramento Municipal Utility District Board, September 1987, for the U.S. Air Force. Testified on the applicability and appropriate calculation of a special surcharge.

Before the Sacramento Municipal Utility District Board, September 1987, for the U.S. Air Force. Testified on cost estimation and cost allocation.

Before the Sacramento Municipal Utility District Board, February 1987, for the U.S. Air Force. Testified on rate design and cogeneration.

Before the Vermont Public Service Board in Docket No. 4661, Green Mountain Power Corporation, November 1982, for the Vermont Department of Public Service. Testified on production planning, fuel costs, and maintenance scheduling for nuclear plant on behalf of the Vermont Public Service Board.

## **JEROME D. MIERZWA**

Mr. Mierzwa is a Principal of Exeter Associates, Inc., with over 20 years of public utility regulatory experience. At Exeter, Mr. Mierzwa has been involved in purchased gas cost allocation analysis and rate design analysis, conducting management audits and similar investigations of the natural gas supply and procurement policies and practices of local distribution companies (LDCs), and has provided assistance in proceedings before the Federal Energy Regulatory Commission (FERC). Mr. Mierzwa has participated in the planning of natural gas procurements for major federal installations located in various regions of the country. Mr. Mierzwa has been involved in evaluating performance-based incentive regulation for LDC purchased gas costs and the unbundling of LDC services. Mr. Mierzwa has participated in developing utility class cost-of-service studies, has presented testimony sponsoring gas, water and wastewater utility cost-of-service studies, least cost gas procurement and incentive regulation, in addition to presenting testimony addressing utility rate base and revenues.

### Education

B.S. (Marketing) - Canisius College, Buffalo, New York, 1981.

M.B.A. (Finance) - Canisius College, Buffalo, New York, 1985.

Gas Rates Fundamental Course, June 1987, University of Wisconsin, sponsored by the American Gas Association.

### Previous Employment

1986-1990 - Rate Analyst, National Fuel Gas Company, Buffalo, New York.

### Prior Professional Work

Prior to joining Exeter in 1990, Mr. Mierzwa served as a rate analyst at National Fuel Gas Supply Corporation, an interstate pipeline. In that position, he was involved in preparing purchased gas adjustment filings and reviewing the rate filings of interstate pipeline suppliers. Mr. Mierzwa was also involved in preparing supplier rate, gas sales and gas purchase price forecasts, examining the rate implications of storage activity, and analyzing rate of return, cash working capital and potential merger and acquisition candidates.

Presentations

The NASUCA annual meetings in San Antonio, Texas, November 1991 (presentation concerning the FERC Mega-NOPR proceeding which led to the adoption of FERC Order No. 636).

The NASUCA annual meetings in Reno, Nevada, November 1994 (presentation concerning spot market gas incentive procurement programs).

Expert Testimony

of Jerome D. Mierzwa

Columbia Gas of Ohio (Public Utilities Commission of Ohio , Case No. 90-17-GA-GCR), November 1990. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination.)

City of Great Falls Wastewater Utility (Montana Public Service Commission Docket No. 90.10.66), March 1991. Presented a cost of service study on behalf of the U.S. Air Force.

City of Great Falls Water Utility (Montana Public Service Commission Docket No. 90.10.67), March 1991. Presented a cost of service study on behalf of the U.S. Air Force.

Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio, Case No. 91-16-GA-GCR), October 1991. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio. (Findings and recommendations were stipulated to without cross-examination.)

Louisiana Gas Service Company (Louisiana Public Service Commission Docket No. U-19237), December 1991. Testified on rate base including cash working capital, cost allocation and rate design on behalf of the Louisiana Public Service Commission.

Equitable Gas Company and Jefferson Gas Company (Pennsylvania Public Utility Docket No. R-00912164), April 1992. Presented a revised forecast of test year sales and revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Peoples Natural Gas Company (Pennsylvania Public Utility Docket Nos. R-00922180 and R-00922206), May 1992. Presented testimony sponsoring a revised forecast of purchased gas costs and on least cost gas procurement on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-922323), July 1992. Presented testimony on the allocation of purchased gas costs and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Providence Water Supply Board (Rhode Island Public Utilities Commission Docket No. 2048), August 1992. Presented testimony sponsoring a class cost of service study, cash working capital and revenues on behalf of the Division of Public Utilities and Carriers.

Dallas, Harvey's Lake, Noxen and Shavertown Water Companies (Pennsylvania Public Utility Docket Nos. R-922326, R-922327, R-922328 and R-922329) September 1992. Presented

testimony on rate base and net operating income issues on behalf of the Pennsylvania Office of Consumer Advocate.

Columbia Gas of Ohio (Public Utilities Commission of Ohio, Case No. 92-18-GA-GCR). January 1993. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00922499), March 1993. Presented testimony on the allocation of purchased gas costs, FERC Order No. 636 transition costs and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Philadelphia Suburban Water Company (Pennsylvania Public Utility Docket No. R-00922476), March 1993. Presented testimony addressing test year revenues and expenses on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00932598), May 1993. Presented testimony on the allocation of purchased gas costs, FERC Order No. 636 transition costs and least cost gas procurement on behalf of the Pennsylvania Office of Consumer Advocate.

Dauphin Consolidated Water Supply Company and General Waterworks of Pennsylvania, Inc. (Pennsylvania Public Utility Docket No. R-00932604), June 1993. Presented testimony addressing test year net operating income on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00932548), July 1993. Presented testimony addressing test year revenues and FERC Order No. 636 transition costs on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Supply Corporation (Federal Energy Regulatory Commission Docket No. RP93-73-000), July 1993. Presented testimony addressing test year throughput and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00932674), July 1993. Presented testimony on the allocation of purchased gas costs, FERC Order No. 636 transition costs and least cost gas procurement on behalf of the Pennsylvania Office of Consumer Advocate.

Sierra Pacific Power Company, Gas Operations (Nevada Public Service Commission Docket No. 93-4087), September 1993. Presented testimony on the allocation of purchased gas costs to electric and gas operations on behalf of the Nevada Office of Consumer Advocate.

Ohio Gas Company (Public Utilities Commission of Ohio, Case No. 93-14-GA-GCR), October 1993. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00932927), March 1994. Presented testimony on transportation service balancing requirement modifications and service enhancements in response to FERC Order No. 636 on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00932885), April 1994. Presented testimony addressing the allocation of purchased gas costs, FERC Order No. 636 transition costs, incentive rate mechanisms, and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00943028), April 1994. Presented testimony addressing the allocation of purchased gas costs, FERC Order No. 636 transition costs, take-or-pay costs, incentive rate mechanisms and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission, Cause No. 37399-GCA41), May 1994. Presented testimony addressing the allocation and recovery of Order No. 636 transition costs on behalf of the Indiana Utility Consumer Counselor.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00943064), July 1994. Presented testimony addressing the allocation of purchased gas costs and incentive rate mechanisms on behalf of the Pennsylvania Office of Consumer Advocate.

National Gas & Oil Corporation (Public Utilities Commission of Ohio, Case No. 94-221-GA-GCR), October 1994. Co-authored report on audit of management and performance of gas procurement activity on behalf of the Public Utilities Commission of Ohio.

Trans Louisiana Gas Company (Louisiana Public Service Commission, Docket No. U-19997), November 1994. Presented testimony addressing the results of a Commission-ordered investigation into the purchased gas adjustment clause of Trans Louisiana Gas Company on behalf of the Louisiana Public Service Commission Staff.

NorAm Gas Transmission Company (Federal Energy Regulatory Commission Docket No. RP94-343-000), March 1995. Presented testimony addressing rate design billing determinants and the treatment of revenues associated with short term firm, interruptible and other services on behalf of the Arkansas and Louisiana Public Service Commissions.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00953297), May 1995. Presented testimony addressing the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00953318), May 1995. Presented testimony addressing the acquisition of capacity resources, transportation balancing charges, performance-based incentive programs and lost and unaccounted-for and company use gas.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00953299), June 1995. Presented testimony addressing storage working capital requirements, heating degree days to be utilized for weather normalization purposes and sponsored a class cost of service on behalf of The Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00953374), July 1995. Presented testimony addressing the acquisition of interstate pipeline capacity and the allocation of purchased gas costs on behalf of The Pennsylvania Office of Consumer Advocate.

Atlanta Gas Light Company (Georgia Public Service Commission Docket No. 5650-U), August 1995. Presented testimony addressing operations of the Company's purchased gas adjustment mechanism and gas procurement practices and policies on behalf of the Georgia Consumers' Utility Counsel.

United Cities Gas Company (Georgia Public Service Commission Docket No. 5651-U), August 1995. Presented testimony addressing the allocation of purchased gas costs on behalf of the Georgia Consumers' Utility Counsel.

Eastern and Pike Natural Gas Companies (Public Utilities Commission of Ohio, Case Nos. 95-215-GA-GCR and 95-216-GA-GCR), September 1995. Co-authorized report on audit of management and performance of gas procurement activity on behalf of the Public Utilities Commission of Ohio.

Tennessee Gas Pipeline Company (Federal Energy Regulatory Commission Docket No. RP95-112-000), September 1995. Presented testimony addressing rate design determinants and revenues associated with long term firm, short term firm and interruptible services on behalf of the Pennsylvania Office of Consumer Advocate.

North Shore Gas Company and Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 95-0490 and 95-0491), January 1996. Presented testimony evaluating performance-based rate programs for purchased gas costs on behalf of the Citizens Utility Board.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00953487), March 1996. Presented testimony addressing incentive rate mechanisms, the allocation of purchased gas costs and unauthorized service on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00963563), May 1996. Presented testimony addressing the allocation of purchased gas costs and the projection of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

North Penn Gas Company and PFG Gas, Inc. (Pennsylvania Public Utility Docket No. R-00963636), July 1996. Presented testimony addressing the recovery of excess interstate pipeline capacity costs on behalf of the Pennsylvania Office of Consumer Advocate.

Dayton Power & Light Company (Public Utilities Commission of Ohio, Case No. 96-220-GA-GCR), September 1996. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

West Ohio Gas Company (Public Utilities Commission of Ohio, Case No. 96-221-GA-GCR), November 1996. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

Northern Illinois Gas Company (Illinois Commerce Commission Docket No. 96-0386), November 1996. Presented testimony evaluating performance-based rate programs for purchased gas costs on behalf of the Citizens Utility Board.

National Fuel Gas Distribution (Pennsylvania Public Utilities Commission Docket No. R-00963779), March 1997. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utilities Commission Docket No. R-00973895), May 1997. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

Southwest Gas Corporation (Nevada Public Service Commission Docket No. 97-2005), June 1997. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Nevada Office of Consumer Advocate.

Kent County Water Authority, (Rhode Island Public Utilities Commission Docket No. 2555), June 1997. Presented class cost of service testimony on behalf of the Division of Public Utilities and Carriers.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00974012), July 1997. Presented testimony on the allocation of purchased gas costs, and the computation of off-system sales margins and margin sharing procedures on behalf of the Pennsylvania Office of Consumer Advocate.

Pennsylvania American Water Company (Pennsylvania Public Utility Docket No. R-00973944), July 1997. Presented class cost of service and rate design testimony on behalf of the Pennsylvania Office of Consumer Advocate.

Commonwealth Gas Services, Inc. (Virginia State Corporation Commission Case No. PUE970455), August 1997. Presented testimony addressing the Company's retail unbundling pilot program on behalf of the Division of Consumer Counsel, Office of the Attorney General.

Consumers Pennsylvania Water Company, Shenango Valley Division (Pennsylvania Public Utility Docket No. R-00973972), September 1997. Presented class cost of service and rate design testimony on behalf of the Pennsylvania Office of Consumer Advocate.

Sierra Pacific Power Company, Water Department (Nevada Public Service Commission Docket No. 97-9020), January 1998. Presented class cost of service and rate design testimony on behalf of the Nevada Utility Consumers' Advocate.

Southern Union Gas Company (City of El Paso, Texas) Inquiry into Southern Union Gas Company's Purchased Gas Adjustment Clause, March 1998. Presented testimony addressing the reasonableness of the Company's gas procurement practices and policies on behalf of the City of El Paso, Texas.

East Ohio Gas Company (Public Utilities Commission of Ohio Case No. 97-219-GA-GCR), March 1998. Co-authored report on the Company's residential and small commercial pilot transportation program on behalf of the Public Utilities Commission of Ohio.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 98-222-GA-GCR), March 1998. Co-authored report on the Company's residential and small commercial pilot transportation program on behalf of the Public Utilities Commission of Ohio.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00974167), March 1998. Presented testimony on the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Pawtucket Water Supply Board (Rhode Island Public Utilities Commission Docket No. 2674), April 1998. Presented class cost of service testimony on behalf of the Division of Public Utilities and Carriers.

Equitable Gas Company (Pennsylvania Public Utilities Commission Docket No. R-00984279), May 1998. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

East Ohio Gas Company (Public Utilities Commission of Ohio Case No. 97-219-GA-GCR), May 1998. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-00984352), July 1998. Presented testimony on the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP98-203-000), October 1998. Presented testimony addressing delivery point imbalance tolerance levels on behalf of the Northern Municipal Distributors Group and the Midwest Region Gas Task Force Association.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 98-223-GA-GCR), January 1999. Co-authored report on audit of management and performance of gas purchasing on behalf of the Public Utilities Commission of Ohio.

North Shore Gas Company and Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 98-0819 and 98-0820), February 1999. Presented testimony addressing proposals to adopt fixed gas cost charges on behalf of the Citizens Utility Board.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00984497), March 1999. Presented testimony addressing the allocation of purchased gas costs, gas price projections and the appropriate level of capacity entitlements on behalf of the Pennsylvania Office of Consumer Advocate.

Delmarva Power and Light Company (Delaware Public Service Commission Docket No. 98-524), March 1999. Presented testimony addressing the Company's customer choice pilot program on behalf of the Division of Public Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00994600), May 1999. Presented testimony addressing the contracting for interstate pipeline capacity and the obligation to serve on behalf of the Pennsylvania Office of Consumer Advocate.

Nicor Gas Company (Illinois Commerce Commission Docket No. 99-0127), May 1999. Presented testimony addressing performance-based rates for purchased gas costs on behalf of the Citizens' Utility Board.

Elizabethtown Gas Company, New Jersey Natural Gas Company, Public Service Electric & Gas Company and South Jersey Gas Company (New Jersey Board of Public Utilities Docket Nos. GX99030121 - GO99030125), July 1999. Presented testimony addressing the assignment of capacity by gas utilities to third-party suppliers and the recovery of stranded costs resulting from the unbundling of gas utility services on behalf of the Ratepayer Advocate.

New Jersey Natural Gas Company (New Jersey Board of Utilities Docket No. G099030122), July 1999. Presented testimony addressing the unbundling of gas utility services on behalf of the Ratepayer Advocate.

Carnegie Natural Gas Company (Pennsylvania Public Utility Commission Docket No. C-00970942), September 1999. Presented testimony addressing the design of sales and transportation rates on behalf of the Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00994782), September 1999. Presented testimony addressing the unbundling of gas utility services on behalf of the Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00994784), October 1999. Presented testimony addressing the unbundling of gas utility services on behalf of the Office of Consumer Advocate.

City of Newport-Water Division (Public Utilities Commission of Rhode Island Docket No. 2985), December 1999. Presented testimony addressing cost allocation and rate design issues on behalf of the Division of Public Utilities and Carriers.

Entergy Gulf States, Inc. (Public Utilities Commission of Texas Docket No. 2111), December 1999. Presented testimony addressing the recovery of purchased power and purchased gas costs on behalf of certain Cities served by Entergy Gulf States, Inc.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00994785), December 1999. Presented testimony addressing gas supply, unbundling and rate design restructuring issues on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. - Gas Division (Pennsylvania Public Utility Commission Docket No. R-00994786), December 1999. Presented testimony addressing gas supply, unbundling and rate design restructuring issues on behalf of the Pennsylvania office of Consumer Advocate.

Cincinnati Gas & Electric Company (Public Utilities Commission) of Ohio Case No. 99-218-GA-GCR), January 2000. Co-authored report on management performance audit of gas purchasing practices on behalf of the Public Utilities Commission of Ohio.

T.W. Phillips Gas and Oil Company (Pennsylvania Public Utility Commission Docket No. R-00994790), April 2000. Presented testimony addressing gas supply, unbundling and rate design restructuring issues on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00994898), April 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00005067), May 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company (Pennsylvania Public Utility Commission Docket No. R-00005285), July 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00005281), July 2000. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Providence Water Supply Board (Public Utilities Commission of Rhode Island Docket No. 3163), October 2000. Presented testimony addressing cost allocation and rate design on behalf of the Division of Public Utilities and Carriers.

Nicor Gas Company (Illinois Commerce Commission Docket Nos. 00-0620/00-0621), December 2000. Presented testimony addressing customer choice on behalf of the Citizens Utility Board.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00005832), April 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00016115), May 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00016132), May 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Dayton Power & Light Company (Public Utilities Commission of Ohio Case No. 00-220-GA-GCR), May 2001. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00016376), July 2001. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Shore Gas Company (Illinois Commerce Commission Docket No. 01-0469), September 2001. Presented testimony addressing gas supply, unbundling and restructuring customer choice issues on behalf of the Citizens Utility Board, Cook County State's Attorney's Office and the People of the State of Illinois.

The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket No. 01-0470), September 2001. Presented testimony addressing gas supply, unbundling and restructuring customer choice issues on behalf of the Citizens Utility Board, Cook County State's Attorney's Office and People of the State of Illinois.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-00016898), March 2002. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00016789), April 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Illinois Gas Company (Illinois Commerce Commission Docket No. 02-0067), April 2002. Presented testimony addressing performance based gas cost incentive program on behalf of the Citizens Utility Board and Cook County State's Attorney's Office.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00027134), May 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00027135), May 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00027388), July 2002. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

The Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio Case No. 01-218-GA-GCR), July 2002. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-00027888), March 2003. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00038101), April 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00038170), May 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00038166), May 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Docket No. R-00038411), July 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 02-221-GA-GCR), July 2003. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket No. 01-0707), July 2003. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Citizens Utility Board.

UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Commission Docket No. R-00049422), July 2004. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PFG, Inc. and North Penn Gas Company (Pennsylvania Public Utility Docket No. R-00049424), July 2004. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

East Ohio Gas Company (Public Utilities Commission of Ohio Case No. 03-219-GA-GCR), August 2004. Co-authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

Southwest Gas Corporation (Nevada Public Services Commission Docket No. 04-6001), September 2004. Presented testimony addressing gas procurement practices on behalf of the Nevada Office of Consumer Advocate.

Northern Natural Gas Company (FERC Docket No. RP04-155-000), November 2004. Presented testimony on billing determinant to be used for rate design on behalf of the Northern Municipal Distributors Group and Midwest Region Gas Task Force Association.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 41338-GCA6), January 2005. Presented testimony addressing storage inventory pricing on behalf of the Indiana Office of Utility Consumer Counselor.

Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission Cause No. 37399-GCA84-S1), February 2005. Presented testimony addressing gas exchange transactions on behalf of the Indiana Office of Utility Consumer Counselor.

Nicor Gas Company (Illinois Commerce Commission Docket No. 04-0779), February 2005. Presented testimony and addressing storage inventory carrying charges on behalf on the Citizens Utility Board and the Cook Country States' Attorney's Office.

Heartland Gas Pipeline, LLC and Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission Cause Nos. 42729 and 42730), March 2005. Presented testimony addressing the petition of Heartland for a certificate of public convenience and necessity to construct an intrastate pipeline, and the petition of Citizens for approval of a storage service agreement on behalf of the Indiana Office of Utility Consumer Counselor.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-00040059), March 2005. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-00050216), March 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Columbia Gas of Pennsylvania (Pennsylvania Public Utility Commission Docket No. R-00049783, May 2005. Presented testimony addressing fixed price sales services on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00050267), May 2005. Presented testimony addressing gas cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00050272), May 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company and Public Service Electric and Gas Company (Pennsylvania Public Utility Commission Docket No. A-110550F0160), June 2005. Presented testimony addressing issues related to the post merger structure of the gas procurement function on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc. – Gas Division (Pennsylvania Public Utility Commission Docket No. R-00050539), July 2005. Presented testimony addressing gas procurement practices and gas cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

PPL Gas Utilities Corporation (Pennsylvania Public Utility Docket No. R-00050540), July 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Utilities, Inc. (Maine Public Utilities Commission Docket No. 2005-87), July 2005. Presented testimony on gas cost allocation and the assignment of interstate pipeline capacity on behalf of the Maine Office of the Public Advocate.

Southwest Gas Corporation (Nevada Public Services Commission Docket No. 05-5015), September 2005. Presented testimony addressing purchased gas cost recovery rates on behalf of the Nevada Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 41338-GCA7), December 2005. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Indiana Office of Utility Consumer Counselor.

Indiana Gas Company, Southern Indiana Gas and Electric and Citizens Gas & Coke Utility (Indiana Utility Regulatory Commission Cause No. 42973), February 2006. Presented testimony addressing gas cost allocation on behalf of the Indiana Office of Utility Consumer Counselor.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-0000051134), March 2006. Presented testimony addressing gas cost procurement practices and cost allocations on behalf of Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Commission Docket No. R-61246), March 2006. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Cincinnati Gas & Electric Company (Public Utilities Commission of Ohio Case No. 05-218-GA-GCR), April 2006. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-00061301), May 2006. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-00061295), May 2006. Presented testimony addressing gas procurement practices and cost allocation on behalf of the Pennsylvania Office of Consumer Advocate.

Atmos Energy Corporation (Louisiana Public Service Commission Docket No. U-27703), May 2006. Authored report on audit of gas purchasing practices and cost allocation on behalf of the Staff of the Louisiana Public Service Commission.

UGI Utilities, Inc. -- Gas Division (Pennsylvania Public Utility Commission Docket No. R-00061502), July 2006. Presented testimony addressing gas procurement practices on behalf of the Pennsylvania Office of Consumer Advocate.

PPL Gas Utilities Corporation (Pennsylvania Public Utility Docket No. R-00061519), July 2006. Presented testimony addressing gas procurement practices on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Resources Inc./The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. A-122250F500), September 2006. Presented testimony addressing gas costs issues in this merger proceeding on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Indiana Public Service Company (Indiana Regulatory Utility Commission Cause No. 41338-GCA8), October 2006. Presented testimony addressing reported gas costs and gas cost incentive mechanism results on behalf of the Indiana Office of Utility Consumer Counselor.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 05-0748 and 05-0749), January 2007. Presented testimony addressing gas cost issues on behalf of the Citizens Utility Board and the City of Chicago.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utility Docket No. R-00072043), March 2007. Presented testimony addressing the allocation of purchased gas costs on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utilities Commission Docket No. R-00072111), May 2007. Presented testimony addressing the allocation of purchased gas costs and gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Docket No. R-00072109), May 2007. Presented testimony addressing gas procurement practices and policies and fuel retention charge discounting on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities, Inc., Gas Utility Division (Pennsylvania Public Utility Docket No. R-0072335), July 2007. Presented testimony on gas procurement practices and policies on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Docket No. R-00072334), July 2007. Presented testimony on gas procurement practices and policies on behalf of Pennsylvania Office of Consumer Advocate.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 07-0241 and 07-0242), July 2007. Presented testimony addressing the allocation of on-system storage on behalf of the Citizens Utility Board and City of Chicago.

Providence Water Supply Board (Public Utilities Commission of Rhode Island Docket No. 3832), July 2007. Addressed cost of service and rate design on behalf of the Division of Public Utilities and Carriers.

Dominion East Ohio Gas Company (Public Utility Commission of Ohio Case No. 07-219-GA-GCR), November 2007. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

Northern Indiana Public Service Company (Indiana Regulatory Utility Commission Cause No. 41338-GCA9), December 2007. Presented testimony addressing the reasonableness of reported gas costs and evaluating the results of the gas cost incentive mechanisms under which the company operates on behalf of the Indiana Office of Utility Commission Counselor.

Aqua Pennsylvania, Inc. (Pennsylvania Public Utility Commission Docket No. R-00072711), February 2008. Presented testimony addressing cost of service, rate design and purchased water rider on behalf of the Pennsylvania Office of Consumer Advocate.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utilities Commission Docket No. R-2008-2012502), March 2008. Presented testimony addressing design day forecasting and transportation service balancing charges on behalf of the Pennsylvania Office of Consumer Advocate.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-2008-2013026), March 2008. Presented testimony addressing the disposition of capacity release revenues on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-2008-2021160), May 2008. Presented testimony addressing exchange transactions on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2008-2039417), July 2008. Presented testimony addressing capacity release and off-system sales revenue sharing and the acquisition of incremental capacity on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2008-2039284), July 2008. Presented testimony addressing the acquisition of incremental capacity on behalf of the Pennsylvania Office of Consumer Advocate.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 06-0751 and 07-0311/06-752 and 07-0312), July 2008. Presented testimony addressing park and loan activities and out-of-period gas cost adjustments on behalf of the Citizens Utility Board and the City of Chicago.

Pawtucket Water Supply Board (Public Utilities Commission of Ohio Docket No. 3945), July 2008. Presented testimony addressing class cost of service and rate design on behalf of the Division of Public Utilities and Carriers

Philadelphia Water Department (Philadelphia Water Commission FY 2009-2012 Rates), July 2008. Presented testimony addressing water and waste water class cost of service and rate design on behalf of the Public Advocate.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 41338-GCA10), March 2009. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Case No. 41338-GCA11), December 2009. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

City of Newport (Public Utilities Commission of Rhode Island), January 2010. Presented testimony sponsoring a water cost of service study on behalf of the Division of Public Utilities and Carriers.

National Fuel Gas Distribution Corporation (Pennsylvania Public Utilities Commission Docket No. R-2010-2150861), March 2010. Presented testimony addressing design day forecasting and transportation service balancing charges on behalf of the Pennsylvania Office of Consumer Advocate.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-2009-2145441), March 2010. Presented testimony addressing capacity release revenues and retainage on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP10-148), May 2010. Presented testimony addressing rate discounts on behalf of the Northern Municipal Distributors Group and Midwest Region Gas Task Force Association.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2010-2155608), May 2010. Presented testimony addressing retainage and design peak day forecasting issues on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-2010-2155613), May 2010. Presented testimony addressing design peak day forecasting, balancing charges and off-system sales on behalf of the Pennsylvania Office of Consumer Advocate.

PECO Energy Company – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2010-2161592), June 2010. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2010-2172933), July 2010. Presented testimony addressing supplier reservation charges and capacity assignment on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2010-2172928), July 2010. Presented testimony addressing supplier reservation charges and capacity assignment on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. 2010-2172922), July 2010. Presented testimony addressing the assignment of capacity on behalf of the Pennsylvania Office of Consumer Advocate.

T.W. Phillips Gas & Oil Company (Pennsylvania Public Utility Commission Docket No. R-2010-2167797), August 2010. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

North Shore Gas Company/The Peoples Gas Light and Coke Company (Illinois Commerce Commission Docket Nos. 07-0576 and 07-0577), October 2010. Presented testimony addressing the reasonableness and allocation of purchased gas costs on behalf of the Citizens Utility Board.

Columbia Gas of Ohio, Inc. (Public Utilities Commission of Ohio Case No. 10-221-GA-GCR), November 2010. Authored report on audit of gas purchasing practices and policies on behalf of the Public Utilities Commission of Ohio.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA16), November 2010. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2010-2201702), January 2011. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. A-2010-221389), February, 2011. Presented testimony addressing the transfer of facilities to an affiliate on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2010-2214415), April 2011. Presented testimony addressing base rate cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate.

The Peoples Natural Gas Company (Pennsylvania Public Utility Commission Docket No. R-2011-2228694), May 2011. Presented testimony addressing retainage and lost and unaccounted-for gas issues on behalf of the Pennsylvania Office of Consumer Advocate.

Equitable Gas Company (Pennsylvania Public Utility Commission Docket No. R-2011-2223563), May 2011. Presented testimony addressing retainage issues on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Utilities – Gas Division (Pennsylvania Public Utility Commission Docket No. R-2011-2238953), July 2011. Presented testimony addressing design peak day forecasting, winter season planning criteria and capacity RFP process on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Penn Natural Gas, Inc. (Pennsylvania Public Utility Commission Docket No. R-2011-2238943), July 2011. Presented testimony addressing design peak day forecasting, winter season planning criteria and capacity RFP process on behalf of the Pennsylvania Office of Consumer Advocate.

UGI Central Penn Gas, Inc. (Pennsylvania Public Utility Commission Docket No. 2011-2238949), July 2011. Presented testimony addressing the Company's winter season planning criteria and capacity RFP process on behalf of the Pennsylvania Office of Consumer Advocate.

Northern Utilities, Inc. (Maine Public Utilities Commission Docket No. 2011-92), August 2011. Presented testimony addressing cost allocation and rate design on behalf of the Maine Public Advocate.

United Water Rhode Island, Inc. (Public Utilities Commission of Rhode Island Docket No. 4255), September 2011. Presented testimony addressing cost allocation and rate design on behalf of the Division of Public Utilities and Carriers.

Northern Indiana Public Service Company (Indiana Utility Regulatory Commission Cause No. 43629-GCA20), November 2011. Presented testimony addressing gas procurement and incentive mechanism issues on behalf of the Office of Utility Consumer Counselor.

## KEVIN L. PORTER

Mr. Porter is a Vice President and Principal at Exeter Associates, Inc., with over 25 years of experience in renewable energy technologies, state and federal regulation of the electric power industry, and transmission access and policy. He leads and performs research in the design, implementation and evaluation of renewable energy policies; on the grid integration of renewable energy technologies; and on the development and implementation of transmission policies. Mr. Porter's recent work includes studies of the Federal Energy Regulatory Commission's generation interconnection policies; the development of state transmission infrastructure authorities; the performance of state renewable portfolio standards in the Northeastern United States; state and regional initiatives to develop new transmission; and on designing feed-in tariffs for renewable energy generation. He also led a large study for the California Energy Commission that assessed the feasibility of incorporating up to 33 percent renewable energy generation by 2020. He is considered one of the leading experts on renewable energy policy design and implementation, and he has authored or co-authored nearly 100 journal articles and research reports. His clients include or have included the American Wind Energy Association, the California Energy Commission, the Center for Resource Solutions, the Clean Energy States Alliance, the Geothermal Energy Association, the National Association of Regulatory Utility Commissioners, the National Renewable Energy Laboratory, and the National Wind Coordinating Collaborative.

### Education:

B.S. (Environmental Studies) - Lewis and Clark College, 1982

M.A. (Economics) - American University, 1998

### Previous Employment:

1990-2001	Senior Policy Analyst National Renewable Energy Laboratory Washington, D.C.
1988-1990	Research Analyst Investor Responsibility Research Center Washington, D.C.
1985-1988	Research Analyst Renewable Energy Institute Washington, D.C.
1985	Research Assistant Analysis, Review & Critique Washington, D.C.

1984	Intern Environmental and Energy Study Institute Washington, D.C.
1983	Legislative Aide/Research Assistant State Senator John Kitzhaber Salem, OR
1982-1983	Intern Congressman Ron Wyden Portland, OR

Professional Work Experience:

At the National Renewable Energy Laboratory, Mr. Porter performed analyses on the economic and technical status of renewable energy technologies; federal and state renewable energy policy development and impacts; and the implications of electric restructuring for renewable energy technologies. He has advised multiple states, industry groups and the U.S. Department of Energy on the development and implementation of renewable energy policies, especially the renewables portfolio standard and system benefit charges. He also has conducted research in transmission access and transmission pricing in competitive markets. He also designed a database of U.S. grid-connected renewable electric projects that is available on the Internet, and has been consulted by DOE, EPA, industry groups, state regulatory agencies, and other businesses and academic institutions on the database.

At the Investor Responsibility Research Center, Mr. Porter co-wrote a directory of the 100 leading developers of renewable energy power plants in the U.S. and overseas. The directory was cited in the *Wall Street Journal*, the *New York Times*, and the *Washington Post*, as well as on CNN and Voice of America. Mr. Porter also assisted in research on nuclear power investments in preparations for a socially responsible investment fund, now offered as an investment option by TIAA-CREF, the world's largest retirement fund.

At the Renewable Energy Institute, Mr. Porter helped compile a directory of the economic, technical and market status renewable energy technologies, co-wrote analyses of how utilities evaluate renewable energy technologies, and how states implemented Public Utility Regulatory Policies Act of 1978.

Major Publications and Reports:

*Challenges and Approaches to Integrating Variable Generation into Electricity Grids*, World Bank, forthcoming (with Marcelino Madrigal).

*Wind Power and Electricity Markets*, Utility Wind Integration Group, October 2011 (with Jennifer Rogers).

*Alternative Energy Resource Market Assessment*, National Association of Regulatory Utility Commissioners, September 2011 (with Ed Holt, Jennifer Rogers and Jason Gifford).

*Survey of Transmission Cost Allocation Methodologies*, National Renewable Energy Laboratory, February 2011, NREL/SR-5500-49880 (with Sari Fink, Christina Mudd, and Jennifer Rogers).

*A Guide for Ontario Energy Policy Makers*, National Regulatory Research Institute, September 2011 (with Scott Hempling and Thomas Stanton).

*The Relationship between Wind Generation and Balancing-Energy Market Prices in ERCOT: 2007–2009*, National Renewable Energy Laboratory, November 2010, NREL/SR-5500-49415 (with Emma Nicholson and Jennifer Rogers).

“Wind at Our Backs: The Impact of Variable Renewable Energy on U.S. Electricity Markets,” *IEEE Energy and Power Magazine*, Vol. 8(5) 2010, pp. 63-71 (with J. Charles Smith, Steve Beuning, Henry Durrwachter, Erik Ela, David Hawkins, Brendan Kirby, Warren Lasher, Ken Schuyler, Paul Sotkiewicz and Jonathan Lowell).

*The Relevance of Generation Interconnection Procedures to Feed-in Tariffs in the United States*, National Renewable Energy Laboratory, October 2010, NREL/SR-6A20-48987 (with Sari Fink and Jennifer Rogers).

*Transmission Cost Allocation Methodologies for Regional Transmission Organizations* (table of cost allocation methodologies), July 2010, NREL/SR-6A20-48987 (with Sari Fink and Jennifer Rogers).

*Examples of Wind Energy Curtailment Practices*, National Renewable Energy Laboratory, July 2010, NREL/SR-550-48737 (with Sari Fink and Jennifer Rogers).

*The Status of Centralized Wind Power Forecasting in North America*, National Renewable Energy Laboratory, April 2010, NREL/SR-550-47853 (with Sari Fink and Jennifer Rogers).

*Renewable Energy Prices in State-Level Feed-in Tariffs: Federal Law Constraints and Possible Solutions*, National Renewable Energy Laboratory, NREL Report No. TP-6A2-47408, February 2010 (with Scott Hempling and Karlynn Cory).

“Bi-Monthly Transmission Updates,” prepared for the National Wind Coordinating Collaborative, 2007-2010 (with Jennifer Rogers and Sari Fink).

“Tilting at Turbines: Eleven Wind Power Myths Debunked,” *IEEE Power and Energy*, November/December 2009 (with Michael Milligan, Brendan Kirby, Edgar DeMeo, Paul Denholm, Hannele Holttinen, Andrew Mills, Nicholas Miller, Mark O’Malley, Matthew Schuerger, and Lennart Soder).

“Impact of Variable Renewable Energy on U.S. Electricity Markets,” Paper for the IEEE Energy and Markets Conference, December 2009 (with Charlie Smith, Steve Buening, Henry Durrwachter, Erik Ela, David Hawkins, Brendan Kirby, Warren Lasher, Jonathan Lowell, Ken Schuyler, and Paul Sotkiewicz).

*Central Wind Forecasting Programs in North America* (table comparing wind forecasting programs). National Renewable Energy Laboratory, NREL Report No. NREL/ SR-550-46763, December 2009 (with Jennifer Rogers).

“Wind Energy and Power System Operations: A Review of Wind Integration Studies to Date.” *Electricity Journal*, December 2009 (with Jennifer DeCesaro and Michael Milligan).

*Wind Curtailment Case Studies*. National Renewable Energy Laboratory, NREL Report No. NREL/SR-550-46716, October 2009 (with Sari Fink, Christina Mudd and Brett Morgenstern).

“Moving Beyond Paralysis: How States and Regions Are Creating Innovative Transmission Policies for Renewable Energy Projects.” *Electricity Journal*, September/October 2009 (with Allison Schumacher and Sari Fink).

*Wind Power and Electricity Markets* (table comparing market rules of relevance to wind in North America). Utility Wind Integration Group, August 2009 (with Sari Fink and Jennifer Rogers).

“State Transmission Infrastructure Authorities: The Story So Far,” *Electricity Journal*, April 2009 (with Sari Fink).

*A Review of Large-Scale Wind Grid Integration in the United States*. Center for Resource Solutions, China Sustainable Energy Program, and the Energy Foundation. April 2009.

*Generation Interconnection Policies and Wind Power: A Discussion of Issues, Problems, and Potential Solutions*. National Renewable Energy Laboratory, NREL Report No. SR-550-44508, February 2009 (with Sari Fink, Christina Mudd and Jennifer DeCesaro).

*The Cost of Transmission for Wind Energy: A Review of Transmission Planning Studies*. Ernest Orlando Lawrence Berkeley National Laboratory, LBNL-1471E, February 2009 (with Andrew Mills and Ryan Wisner).

*Review of State Renewable Portfolio Standard Programs in the Northeast and Mid-Atlantic Regions.* Clean Energy States Alliance, December 2008 (with Jennifer DeCesaro).

*HECO Feed-In Tariff Program Plan,* Consultant Report Prepared for Hawaiian Electric Company, Maui Electric Company, and Hawaii Electric Light Company, December 2008 (with Karin Corfee, Nellie Tong, Wilson Rickerson, Jennifer DeCesaro and Robert Grace).

*Exploring Feed-In Tariffs for California: Feed-In Tariff Design and Implementation Issues and Options,* California Energy Commission Consultant Report, CEC-300-2008-003-F, November 2008 (with Robert Grace, Wilson Rickerson, Jennifer DeCesaro, Karin Corfee, Meredith Wingate and Jonathan Lesser).

*Wind Capacity Credit in the United States.* Proceedings of the 2008 IEEE Power and Energy Society General Meeting - Conversion and Delivery of Electrical Energy in the 21st Century, 20-24 July 2008, Pittsburgh, Pennsylvania (with Michael Milligan).

*Determining the Capacity Value of Wind: An Updated Survey of Methods and Implementation.* National Renewable Energy Laboratory, NREL Report No. CP-500-43433, June 2008 (with Michael Milligan).

*State Transmission Infrastructure Authorities: The Story So Far.* National Renewable Energy Laboratory, NREL Report No. SR-500-43146, May 2008 (with Sari Fink).

“What Comes First?” *IEEE Power and Engineering*, November/December 2007 (with Dick Piwko, Robert DeMello, Robert Gramlich, Warren Lasher, Dale Osborn and Carl Dombek).

“A Review of the International Experience with Integrating Wind Energy Generation,” *Electricity Journal*, October 2007 (with Dora Yen and Brett Morgenstern).

*Increasing Renewable Resources: How ISOs and RTOs Are Helping Meet This Public Policy Objective,* ISO/RTO Council, October 2007 (with Brendan Kirby).

*Intermittency Analysis Project Final Report,* California Energy Commission, CEC-500-2007-081, July 2007 (with Dora Yen, General Electric and Davis Power Consultants).

*Review of International Experience with Integrating Variable Renewable Energy Generation,* California Energy Commission, CEC-500-2007-029, April 2007 (with Christina Mudd and Michelle Weisburger).

*Intermittency Analysis Project: Summary of Preliminary Results for the 2006 Base and 2010 Tehachapi Cases,* CEC-500-2007-009, January 2007 (with Dora Yen, General Electric and Davis Power Consultants).

*State and Regional Policies that Encourage Utility Energy Efficiency Programs: Study Pursuant to Section 139(a) of the Energy Policy Act of 2005.* Prepared for the National Association of Regulatory Utility Commissioners and the National Association of State Energy Officers in support of the U. S. Department of Energy's Report to Congress. July 2006 (with Christina, Mudd, Lowell Unger and Rich Sedano).

*Summary of the California Energy Commission's Renewables Portfolio Standard Contractor Reports, and the Status of Renewables Portfolio Standard Contracting and Regulation,* California Energy Commission Consultant Report, CEC-300-2006-012, June 2006 (with Ryan Wisner and Meredith Wingate).

"The Capacity Value of Wind in the United States: Methods and Implementation," *Electricity Journal*, February 2006 (with Michael Milligan).

"Wind Energy Delivery Issues: Transmission Planning and Competitive Electricity Market Operation," *IEEE Power and Energy Magazine*, November/December 2005 (with Richard Piwko, Dale Osborn, Robert Gramlich, Gary Jordan and David Hawkins).

*Achieving a 33% Renewable Energy Target,* Center for Resource Solutions, November 2005 (with Jan Hamrin, Ray Dracker, Jennifer Martin, Ryan Wisner, David Clement and Mark Bolinger).

"Does It Have to be This Hard: Implementing the Nation's Most Complex Renewables Portfolio Standard," *Electricity Journal*, October 2005 (with Ryan Wisner, Mark Bolinger and Heather Raitt).

"Determining the Capacity Value of Wind: A Survey of Methods and Implementation," Windpower 2005 Proceedings (with Michael Milligan).

*Preliminary Stakeholder Evaluation of the California Renewables Portfolio Standard,* Consultant Report for the California Energy Commission, CEC-300-2005-011, June 2005 (with Ryan Wisner and Mark Bolinger).

*National Wind Coordinating Committee Transmission Updates,* briefs published every other month from March 2005, available at <http://www.nationalwind.org/publications/transmission/updates/default.htm> (with Miles Keogh and Katie Kalinowski).

*Flexible Firm Transmission Service: A New Way to Bring Wind Energy to Market,* Primen Renewable Perspective, RE-PP-05, December 2004.

*Summary of Recommendations: Legislative and Regulatory Actions to Consider for Ensuring the Long-Term Effectiveness of the Nevada Renewable Portfolio Standard* (with Robert

Grace and Ryan Wisser. Report to the Nevada Renewable Energy and Energy Conservation Task Force, December 3, 2004.

*Oral Testimony before the Federal Energy Regulatory Commission, Docket AD4-13-000, Assessing the State of Wind Energy in Wholesale Electric Markets, Denver, December 1, 2004.*

*Results of a Survey Regarding a Potential Midwest Renewable Energy Tracking System (with David Chen). National Council on Electricity Policy, August 2004.*

*Report to Congress on Analysis of Wind Resource Locations and Transmission Requirements in the Upper Midwest, U.S. Department of Energy, May 2004.*

*Evaluating Experience with Renewable Portfolio Standards in the United States, Conference Paper for Windpower 2004, Chicago, March 28-31, 2004 (with Ryan Wisser and Bob Grace).*

"If SMD Dies, What Parts of Order 888 Do We Need to Fix?" *Electricity Journal*, December 2003.

Wind Energy Interconnection, National Wind Coordinating Committee, September 2003 (with Charlie Smith and Steve Wiese).

*Wind Energy, Congestion Management, and Transmission Rights, National Wind Coordinating Committee, August 2003 (with Ron Lehr and Steve Wiese).*

*Implications of Scheduling Requirements for Wind Energy, National Wind Coordinating Committee, August 2003 (with Ed DeMeo and Steve Wiese).*

*Evaluating State Renewables Portfolio Standards: A Focus on Geothermal Energy (with Ryan Wisser and Robert Grace), report prepared for the National Geothermal Collaborative, June 2003.*

*Market Approaches to Estimating the Capacity Value of Wind Energy in Restructured Markets, Conference Paper for Windpower 2003, Austin, Texas, May 18-21, 2003.*

*Regional Transmission Organizations and Wind Energy: A Happy Marriage or Heading to Divorce Court? Conference Paper for Windpower 2002, Portland, Oregon, June 3-6, 2002.*

*The Implications of Regional Transmission Organization Design for Renewable Energy Technologies, National Renewable Energy Laboratory, NREL/SR-620-32180, May 2002.*

"Wind Energy and Power System Operations: A Survey of Current Research and Regulatory Actions." *Electricity Journal*, March 2002 (with Michael Milligan, Brian Parsons and Jim Caldwell).

*Wind/Natural Gas Hybrid Power Projects: Combining the Best of Both Energy Sources*, January 2002, paper prepared for The American Wind Energy Association and the U. S. Environmental Protection Agency.

“States Emerge as Clean Energy Investors: A Review of State Support for Renewable Energy.” *Electricity Journal*, November, 2001 (with Ryan Wiser, Mark Bollinger, Lew Milford and Michael Stoddard).

*Clean Energy Funds: An Overview of State Support for Renewable Energy*, conference paper for Windpower 2001, Washington, D.C., June 3-7, 2001 (with Ryan Wiser, Mark Bollinger, Lew Milford and Michael Stoddard).

*Clean Energy Funds: An Overview of State Support for Renewable Energy*, Lawrence Berkeley National Laboratory, LBNL-47705, April 2001 (with Ryan Wiser, Mark Bolinger, Lew Milford and Michael Stoddard).

*REPiS 5.0*, database of grid-connected renewable electric projects in the United States, available at <http://www.eren.doe.gov/repis>, March 2001.

*Biomass Power and State Renewable Energy Policies Under Electric Industry Restructuring*, National Renewable Energy Laboratory, NREL/CP-620-28747, conference paper for Bioenergy 2000, Buffalo, NY, October 15-19, 2000.

*Comparing State Portfolio Standards and System Benefit Charges under Restructuring*, October 2000 (with Ryan Wiser and Mark Bolinger).

*The Renewable Electric Plant Information System: 1999 Edition*, National Renewable Energy Laboratory, NREL/TP-620-28674, August 2000 (with Dave Trickett and Lori Bird).

*Status Report on the Design and Implementation of State Renewable Portfolio Standards and System Benefits Charge Policies*, conference paper for Windpower 2000, Palm Springs, Calif., April 30 – May 3, 2000 (with Ryan Wiser).

*Substantive Rules for Nevada’s Domestic Energy Portfolio Standard*, prepared for the Nevada Public Service Commission, May 18, 2000 (with Ryan Wiser).

“Restructuring: The Green Benefits,” *Wind Directions*, May 2000, p. 13 (with Ryan Wiser and Steve Clemmer).

*Analysis on Amendments to Iowa Electric Restructuring Legislation Regarding the Proposed RPS and SBC* memorandum to the Iowa Department of Natural Resources, April 3, 2000 (with Ryan Wiser).

"Emerging Markets for Renewable Energy: The Role of State Policies," *Electricity Journal*, January/February 2000, pp. 13-24 (with Ryan Wisser and Steve Clemmer).

*Renewable Energy Markets in State Electric Industry Restructuring*, guest editorial to the LEAP Letter, July-August 1999 (with Ryan Wisser and Steve Clemmer).

*Choices for a Brighter Future*, National Renewable Energy Laboratory, DOE/GO-10099-878, September 1999 (with Blair Swezey, Larry Goldstein, Karin Sinclair, and Yi-huei Wan).

*Comments of the National Wind Coordinating Committee on Regional Transmission Organizations*, submitted to the Federal Energy Regulatory Commission, August 1999.

*Emerging Markets for Wind Power: The Role of State Policies during Restructuring*, conference paper for Windpower 1999, Burlington, Vermont, June 20-23, 1999 (with Ryan Wisser and Steve Clemmer).

*Renewable Portfolio Standards for Expanding Renewable Energy Markets: Implementation Issues and Benefits of Adopting a Renewable Portfolio Standard in the Philippines*, May 1999 (with Lori Bird and Paul Galen).

Contributor to comments filed by the Corporation for Solar Technology and Renewable Resources (CSTRR) on the Nevada Renewables Portfolio Standard, March 1999, Docket No. 97-8001.

*NREL Biomass Power Position on Green-e's Discussion Paper on Renewable Energy Co-firing*, April 1999 (with Chris Demeter, Ed Gray, Kevin Comer; Kevin Craig, Ralph Overend and Margaret Mann).

*Green Power Marketing in Retail Competition: An Early Assessment*, National Renewable Energy Laboratory, NREL/TP.620.25939/LBNL-42286, February 1999 (with Ryan Wisser, Ashley Houston and Jeff Fang).

*Transmitting Wind Energy: Issues and Options in Competitive Electric Markets*, National Wind Coordinating Committee, Washington, D.C., ISBN 1-58024-021-6, February 1999 (with Andrew Brown and Chris Ellison).

*Suggested Reading Materials on the Renewable Portfolio Standard*, prepared for the Nevada Working Group on the Renewable Portfolio Standard, January 1999.

*Current Renewables Activity in Nevada*, prepared for the Nevada Working Group on the Renewable Portfolio Standard, January 1999.

*Treatment of Biomass and Geothermal in the Nevada Renewable Portfolio Standard, or What Is Naturally Regenerated?* prepared for the Nevada Working Group on the Renewable Portfolio Standard, January 1999.

*Flexibility Mechanisms*, prepared for the Nevada Working Group on the Renewable Portfolio Standard, January 1999.

*The Legality of in-State Restrictions: An Overview*, prepared for the Nevada Working Group on the Renewable Portfolio Standard, January 1999.

*Independent System Operators and Biomass Technologies*, National Renewable Energy Laboratory, conference paper for Bioenergy 1998, October 4-8, 1998, Madison, Wisconsin.

"Green Marketing Takes Off with Choice in Electricity," *Public Utilities Fortnightly*, August 1998 (with Ashley Houston and Blair Swezey).

*What Is Happening with Independent System Operators?* National Renewable Energy Laboratory, NREL/CP-620-24584, conference paper for Windpower 1998, Bakersfield, California, April 26-30, 1998.

*State Activities in Electric Industry Restructuring*, Final Report to Energy Information Administration, February 1998 (with Jeff Fang).

"Electric Industry Restructuring, Ancillary Services, and the Potential Impact on Wind," *Windpower 1997*, Austin, Texas (with Eric Hirst, Brendan Kirby, Brian Parsons, and Jack Cadogan).

*Open Access Transmission and Renewable Energy Technologies*, National Renewable Energy Laboratory, NREL/SP-460-21427, September 1996.

"Why My Tariff is Different Than Yours: Comparing Non-Price Terms in Utility Filings Against FERC's Pro Forma Tariffs," *Public Utilities Fortnightly*, May 1, 1996.

"The California ISO and Renewables," Technical Memo prepared for the U.S. Department of Energy's Wind Technology Program, June 4, 1996.

*A Summary of the California Public Utilities Commission's Two Competing Electric Utility Restructuring Proposals*, National Renewable Energy Laboratory, NREL/TP-461-8330, November 1995.

"Public Utility Regulatory Policies Act (PURPA) Briefing Book," prepared for DOE's Office of Utility Technologies, April 10, 1995 (with Paul Galen and Jeff Fang).

*Electric Utility Restructuring: Strategic Issues Paper for DOE's Office of Energy Efficiency and Renewable Energy*, National Renewable Energy Laboratory, NREL/MP-461-7285, May 1995 (with Paul Galen and Ron White).

"Transmission and IRP," paper for the NARUC-DOE Fifth National Integrated Resource Planning Conference, Kalispell, Montana May 15-18, 1994.

*The Potential Impact of Externalities Considerations on the Market for Biomass Power Technologies*, National Renewable Energy Laboratory, NREL/TP-462-5789, February 1994, NREL/TP-462-5789 (with Blair Swezey and J. Sherman Feher).

Editor, *Proceedings of the Executive Dialogue on Resource Planning and Investment Decisions*, January 30-31, 1992, Vienna, Virginia, U.S. Department of Energy, DOE/CH10093-202.

*An Inventory of Analysis, Modeling and Database Projects*, prepared for the Office of Conservation and Renewable Energy, U.S. Department of Energy (with Barbara Farhar of NREL and Fred Abel of DOE), February 1991.

REPiS: The Renewable Electric Project Information System, Solar Energy Research Institute, SERI/MP-260-4080, December 1990 (with Blair Swezey). REPiS: The Renewable Electric Project Information System, Solar Energy Research Institute, SERI/MP-260-4080, December 1990 (with Blair Swezey).

"Big Business Makes Small Power," *Cogeneration and Small Power Monthly*, November 1989 (with Susan Williams).

"Power Plant Development by U.S. Renewable Energy Companies Overseas: Results of IRRC's Survey," prepared for the U.S. Agency for International Development, October 1989 (with Susan Williams).

*Power Plays* (1989 edition). Washington: Investor Responsibility Research Center, 1989 (with Susan Williams).

*Report on REPiS: The Renewable Electric Project Information System*, Solar Energy Research Institute, August 1988 (with Blair Swezey).

"Commercializing Photovoltaics: A Utility Takes the Lead," *IRRC News for Investors*, Investor Responsibility Research Center, Washington, July-August 1988.

"Energy Resolution Withdrawal Called a Victory for All Sides," *IRRC News for Investors*, Investor Responsibility Research Center, Washington, May 1988.

"Renewable Energy Technology Update," *Proceedings of the 15<sup>th</sup> Energy Technology Conference and Exposition*, Washington, D.C., February 19, 1988 (with William Meade).

*Emerging Energy Technologies: A Status Report.* Washington: Renewable Energy Institute, May 1987.

*Trends in State Utility Regulation Affecting Renewable Energy.* Washington: Renewable Energy Institute, March 1987 (with William Meade).

*Utility Decision Making in the 1980s: Implications for Renewable Energy.* Washington: Renewable Energy Institute, September 1986 (with William Meade).

*Annual Renewable Energy Technology Review: Progress through 1984.* Washington, D.C.: Renewable Energy Institute, May 1986 (with William Meade).

*Energy Innovation: Development and Status of the Renewable Energy Industries 1985, Vol. 2,* wind energy chapter (with Tom Gray and Carlo LaPorta).

*Case Studies of Six Successful Solar Energy Installations.* Washington: Solar Energy Industries Association, June 1985 (with Carlo LaPorta).

Presentations:

- “Variable Generation Forecasting Project,” presented before the State Provincial Steering Committee, Monterey, California, October 26, 2011.
- “Summary of Balancing Authority Actions to Integrate Variable Energy Generation,” presented before the State Provincial Steering Committee, Monterey, California, October 26, 2011.
- “Update on Wind Curtailment in Europe and North America,” prepared for the Energy Foundation’s China Sustainable Energy Program, June 9, 2011.
- “Report on Transmission Cost Allocation for RTOs and Others,” presented before Windpower 2011, Anaheim, California, May 23, 2011 (with Lynn Coles).
- “FERC Proposed Rule on the Integration of Variable Energy Resources,” presented before the Energy Foundation Meeting on Ancillary Services, April 26, 2011.
- “Past and Current Initiatives of the Federal Energy Regulatory Commission,” presented before the China Energy Cooperative Partnership Delegation, Kansas City, Missouri, April 11, 2011 (with Jennifer Rogers).
- “What is a Wind Integration Study,” presented before the Energy Foundation, U.S. Department of Energy and National Renewable Energy Laboratory’s Joint Workshop on Wind Integration, Beijing, China, December 7, 2010.
- “Calculating Reserve Needs and Costs in Wind Integration Studies: A Review,” Prepared for the Energy Foundation’s China Sustainable Energy Program, September 2, 2010.
- “Status of Centralized Wind Power Forecasting in North America,” presented before the American Wind Energy Association Webinar on Wind Forecasting, August 11, 2010.
- “Doing a Wind Integration Study,” presented before the Energy Foundation Workshop on Wind Integration, Beijing, China, July 2, 2010.
- “Wind Forecasting in North America,” presented before the Energy Foundation Workshop on Wind Integration, Beijing, China, July 2, 2010.
- “PJM Intermittent Resources Working Group from a Stakeholder’s Perspective,” presented before the Utility Wind Integration Group’s 2010 Workshop, Portland, Oregon, April 14, 2010.
- “A Review of Large-Scale Wind Grid Integration in the United States,” presented before the China Windpower 2009 Conference, Beijing, China, October 29, 2009.

“Wind Power and Electricity Markets,” presented before the Utility Wind Integration Group’s Fall Workshop, Cedar Rapids, Iowa, October 8, 2009.

“Proactive Transmission Policies and Wind Power,” presented before the Environmental Protection Agency’s Green Power Partnership, Washington, D.C., August 4, 2009.

“A Review of Large-Scale Wind Grid Integration in the United States,” presented before The Energy Foundation’s China Sustainable Energy Program, June 24, 2009.

“Wind Forecasting: An Introduction,” presented before the American Wind Energy Association’s Windpower Conference, Chicago, Illinois, May 6, 2009.

“The Need for Proactive Transmission Policies and Practices,” presented before World Bank Energy Week, April 1, 2009.

“Generation Interconnection Policies and Wind Power,” presented before the American Wind Energy Association’s Wind Power and Transmission Workshop, Overland Park, Kansas, March 17, 2009. Also presented before the American Wind Energy Association’s Windpower Conference, Chicago, Illinois, May 7, 2009.

“Transmission and Interconnection Issues,” presented before the Northeast Commerce Association, Boston, Massachusetts, March 5, 2009.

“State RPS Policies,” presented before the PJM Emerging Energy Resources Forum, Baltimore, Maryland, October 20, 2008.

“Grid Integration of Wind in the U.S. and Other Issues,” presented before the Canadian Electricity Association’s Power Marketers Council, St. Andrews, New Brunswick, September 11, 2008.

“Renewable Portfolio Standards: Implications of a Federal Standard on State RPS Policies,” presented at the National Council of State Legislature Spring Forum, Washington, D.C., April 25, 2008.

“New Transmission Initiatives in the United States,” presented before the American Wind Energy Association and Canadian Wind Energy Association Transmission Workshop, Detroit, Michigan, March 18, 2008.

“Grid Integration of Wind and Solar in the United States,” presented before the World Bank, Washington, D.C., February 21, 2008.

“New Transmission Initiatives for Renewable Energy and Some Thoughts on Wind Integration,” presented before the National Association Regulatory Utility Commissioners’ Staff Electricity Committee, Washington, D.C., February 17, 2008.

- “RPS Evaluation,” presented before the Clean Energy States Alliance’s Northeast RPS Collaborative, Albany, New York, September 7, 2007.
- “Renewable Portfolio Standards: What’s Happening at the State Level and in Congress,” presented before the Utility Wind Integration Group Annual Meeting, Anchorage, Alaska, July 24, 2007.
- “Wind Power Integration Studies,” presented before the National Council on Electricity Policy teleconference, March 14, 2007.
- “Introduction to Windpower,” presented before the Offshore Wind for Delaware workshop, Dover, Delaware, February 16, 2007.
- “Intermittency Analysis Project: 2010 Accelerated and 2020 Scenarios,” presented before the California Energy Commission Staff Workshop on the Intermittency Analysis Project, Sacramento, California, February 13, 2007 (with Dora Yen).
- “Intermittency Analysis Project Interim Results,” presented before the Utility Wind Integration Group 2006 Fall Technical Workshop, Oklahoma City, Oklahoma, October 24, 2006.
- “Feed-In Tariffs,” presented before the California Energy Commission Integrated Energy Policy Report workshop, Sacramento, California, August 22, 2006.
- “Intermittency Analysis Project: 2010 Scenario,” presented before the California Energy Commission Staff Workshop on the Intermittency Analysis Project, Sacramento, California, August 15, 2006 (with Dora Yen).
- “Implementing the Nation’s Most Complex Renewables Portfolio Standard: A California Case Study,” presented before Windpower 2006, Pittsburgh, Pennsylvania, June 7, 2006 (with Ryan Wiser, Mark Bolinger and Heather Raitt).
- “Mid-Course Review of the California Renewables Portfolio Standard,” presented before the California Energy Commission’s Integrated Energy Policy Workshop, Sacramento, California, July 6, 2005 (with Ric O’Connell and Ryan Wiser).
- “Preliminary Stakeholder Evaluation of the California RPS,” presented before the California Energy Commission, Sacramento, California, June 14, 2005 (with Ryan Wiser).
- “Lessons Learned from Selected State Renewable Energy Policy Mechanisms”, presented before the National Conference of State Legislators’ Energy Leaders Forum, Denver, Colorado, November 17, 2004 (with Ryan Wiser and Mark Bolinger).

“State RPS Policies without the PTC,” presented before the American Wind Energy Association’s Legislative Committee Meeting, Washington, DC, November 10, 2004.

“Wind Projects in Maryland,” presented before the Utility Wind Interest Group’s Fall 2004 Meetings, Albany, New York, October 26, 2004.

“Experience from Other Regions,” presented before the National Wind Coordinating Committee’s Southwest Power Pool Workshop, Little Rock, Arkansas, October 25, 2004.

“What is the National Council Doing? An Overview of 2003 and 2004 Activities and A Preview of Some 2005 Activities,” presented before the National Council on Electricity Policy’s In-Person Meeting, Chicago, Illinois, September 30, 2004.

“Preliminary Thoughts on Regional Activities in Wind Energy and Systems Integration,” presented before the U.S. Department of Energy’s and National Renewable Energy Laboratory’s Wind Technologies Program, September 13, 2004.

“Costs and Cost Recovery: What Other Regions Have Done,” presented before the Second Midwest Tradable Renewable Credits Workshop, Madison, Wisconsin, June 16, 2004.

“Results of Midwest Tradable Renewable Credits Survey,” presented before the Second Midwest Tradable Renewable Credits Workshop, Madison, Wisconsin, June 16, 2004.

“Transmission Briefs and Power Pool Rules,” presented before the U.S. Department of Energy’s Peer Review of the Wind Technologies Program, Washington, D.C., May 5, 2004.

“Transmission Issues with Renewable Energy Technologies,” presented at the Earth Technologies Forum, Washington, D.C., April 13, 2004.

“Evaluating Experience with Renewable Portfolio Standards in the United States,” presented at the Windpower 2004 Conference, Chicago, Illinois, March 31, 2004.

“Update on the National Council on Electricity Policy,” presented at the National Association of Regulatory Utility Commissioners’ Winter Meetings, Washington, D.C., March 7, 2004.

“Update on the National Council on Electricity Policy,” presented at the National Association of Regulatory Utility Commissioners’ 2003 Annual Conference, Atlanta, Georgia, November 16, 2003.

“Update on the National Council on Electricity Policy,” presented at the National Association of Regulatory Utility Commissioners’ 2003 Summer Meetings, Denver, Colorado, July 28, 2003.

“Next Steps for Electric Restructuring in the Mid-Atlantic,” presented before the Mid-Atlantic State Energy Directors’ Meeting, Annapolis, Maryland, July 17, 2003.

“Overview of Economic and Policy Trends Related to Electricity Generation from Renewables,” presented at the Midwest Renewable Energy Workshop, Chicago, Illinois, June 19, 2003.

“Creating Geothermal Markets: Evaluating Experience with State Renewables Portfolio Standards,” (with Ryan Wiser, Robert Grace and Chase Kappel), presented to the National Geothermal Collaborative, May 8, 2003.

“Market Approaches Towards Estimating the Capacity Value of Wind Energy in Restructured Markets,” presented at the Windpower 2003 Conference, Austin, Texas, May 19, 2003.

“Update on the National Council on Competition and the Electric Industry,” presented at the National Association of Regulatory Utility Commissioners’ 2003 Winter Meetings, Washington, D.C., February 23, 2003.

“Wind Energy Market and Industry Trends,” presented before the World Resources Institute’s Green Market Development Group, Washington, D.C., February 5, 2003.

“Eligibility of Intermittent Renewables for Regional Capacity Adequacy Mechanisms,” presented before the PJM Intermittent Capacity Resource Working Group, Wilmington, Delaware, December 9, 2002.

“The American Wind Energy Association’s Approach Towards Determining Capacity Credit for Wind Energy,” presented before the PJM Intermittent Capacity Resource Working Group, Wilmington, Delaware, November 20, 2002.

“The Standard Market Design Notice of Proposed Rulemaking and Wind Energy,” presented before the National Wind Coordinating Committee, Washington, D.C., September 27, 2002.

“Integrating Wind Energy with Power System Operations,” presented before the NARUC Committee on Energy Resources and the Environment, NARUC Summer Meetings 2002, Portland, Oregon, July 29, 2002.

“Regional Transmission Organizations and Wind Energy: A Happy Marriage or Heading to Divorce Court?” Presented at the Windpower 2002 Conference, Portland, Oregon, June 3, 2002.

“Implications of Regional Transmission Organizations for Renewable Energy Technologies,” presented at the National Renewable Energy Laboratory Energy Analysis Seminar Series, Washington, DC, May 11, 2002.

- “The Renewables Portfolio Standard: An Overview,” presented at the New England Sustainable Energy’s Building Energy 2001, Tufts University, Medford, Mass., March 22-23, 2001.
- “Renewable Portfolio Standard and System Benefit Charge Activities in the Northeast,” presented before the Northeast Regional Biomass Program’s Steering Committee Meeting, Washington, D.C., January 31, 2001.
- “Green Power Markets: An Overview,” presented before the Integrated Solid Waste Association, Washington, D.C., November 30, 2000.
- “Policy and Market Activities in the Mid-Atlantic Region,” presented at the UWIG/TVP/WPA Workshop, Morgantown, West Virginia, October 24, 2000.
- “State Renewable Energy Policies Under Electric Restructuring,” presented at Bioenergy 2000, Buffalo, N.Y., October 16, 2000.
- “Biomass Power and State RPS and SBC Policies,” presented at Bioenergy 2000, Buffalo, N.Y., October 16, 2000.
- “State RPS and SBC Policies,” presented at the Green Power Options and Opportunities in the Midwest, Madison, Wisconsin, June 16, 2000.
- “A Status Report on State RPS and SBC Policies,” presented at the Windpower 2000 conference, May 1, 2000, Palm Springs, California (with Ryan Wiser).
- “FERC Order 2000 – Implications for Wind Energy,” presented at the National Wind Coordinating Committee’s Transmission Workshop, March 1, 2000, Denver, Colorado.
- “The Impact of State RPS and SBC Policies Under Electric Restructuring,” presented before Representative Sherwood Boehlert’s (R-NY) office, January 31, 2000, Washington, D.C.
- “Navigating the Policy Landscape,” presented at the Environmental Standards conference, January 20, 2000, Washington, D.C.
- “The Impact of State RPS and SBC Policies Under Electric Restructuring,” presented at the Environmental Standards conference, January 20, 2000, Washington, D.C.
- “Potential Market Impacts of Green Marketing and RPS and SBC Policies for Renewable Energy,” presented before the EIA Electricity Weekly Forum, January 11, 2000.
- “Update on State RPS Policies and Activities,” presented before the Wind Powering America Strategy Meeting, December 1999 (with Ryan Wiser).

"Biomass in the PJM Region," presented before the Mid-Atlantic Green-e Meeting on Biomass Power, Philadelphia, PA, December 1999.

"Emerging Markets for Wind Power: The Role of State Policies During Restructuring," presented before Windpower 1999, Burlington, Vermont, June 20-23, 1999 (with Ryan Wisner and Steve Clemmer).

*Update on Transmission and FERC*, presented to the Utility Wind Interest Group's 1999 Annual Meeting, Midland, Texas, May 17-19, 1999.

"Green Power Marketing in Retail Competition: An Early Assessment," presented before the Fourth Biomass Conference of the Americas, August 29-September 2nd, 1999, Oakland, California (with Ryan Wisner and Jeff Fang).

"NREL Restructuring Activities," presentation to William Keese, Chair, California Energy Commission, June 1998.

"Renewable Policies Past and Present, and Possible Restructuring Policies for Renewables" presentation to Dan Alpert, staff to Senator Jeff Bingham (D-NM), June 1998.

"Independent System Operators and Bioenergy Technologies," presented at Bioenergy 1998, October 4-8, 1998.

"What is Happening with Independent System Operators," presented at Windpower 1998, Bakersfield, California, April 26-30, 1998.

"FERC's Open-Access NOPR: Predictions, Implications, and Post-NOPR Initiatives," presented before the Southeast Municipal Power Colloquium, Atlanta, Georgia, April 10, 1996.

"Stranded Investment, Transmission Access and IRP: FERC's Activities and Implications for IRP," presented before IRP/PBR Program Review Meeting, Arlington, Virginia, December 16, 1994.

"Transmission and IRP," presented before the NARUC/DOE Fifth National IRP Conference, Kalispell, Montana, May 16, 1994.

## CHRISTINA R. MUDD

Ms. Mudd is a Senior Analyst at Exeter Associates, Inc. with over 15 years of experience in energy efficiency, renewable energy, and climate change policy. With Exeter Ms. Mudd provides detailed analysis on the economic impacts of energy and environmental policies. She also provides technical support to state and federal agencies by reviewing utility supply contracts and rates, reviewing the economic feasibility of alternative energy projects, and exploring regulatory and policy options to expand the use of energy efficient technologies and distributed resources.

In 2008, Ms. Mudd was appointed to a four-year appointment on the Howard County Commission on Sustainability and the Environment by County Executive Ken Ulman, where she serves as the Chair of the Howard County Energy Task Force.

Christina previously worked as a Senior Associate for Hagler Bailly, Inc., working under contract to USAID, providing technical support to developing countries. Under contract to USAID Ms. Mudd examined the application of market-based instruments for purposes of reducing greenhouse gas emissions and mitigating other environmental impacts in the Philippines, India, and Indonesia. Ms. Mudd also worked in Mexico, establishing comprehensive environmental and energy efficiency programs for the reduction of greenhouse gas emissions.

### Education:

B.S. Political Science and Biology, James Madison University, Harrisonburg, VA, 1992

M.A. International Affairs: Concentration in Energy Policy and Economics, Johns Hopkins University, Paul H. Nitze School for Advanced International Studies (SAIS), Washington, D.C., 1998

### Previous Employment:

2000-2004	Assistant Director/Policy Analyst Maryland Energy Administration Annapolis, MD
1998-2000	Senior Associate PHB – Hagler Bailly (now PA Consulting, Inc.) Arlington, VA
1997-1998	Associate (part-time) Louis Berger International, Inc. Washington, D.C.

1992-1996 Program Manager  
Maryland International Center (World Trade Center Institute)  
Baltimore, MD

Professional Work Experience:

Ms. Mudd's work at Exeter Associates, Inc. is primarily related to the analysis of state regulatory and legislative policies for the development of renewable resources, the expansion of energy efficiency and conservation, and the use of distributed resources. She also has considerable experience with the analysis of climate change mitigation strategies, including the evaluation of various benefits-costs assessments and the Regional Greenhouse Gas Initiative. She prepares briefing memoranda for state government officials on regulatory proceedings, legislative initiatives, and technical issues. She has authored numerous reports and research papers at the request of state clients.

Ms. Mudd assists the Maryland Department of Natural Resources, Maryland Energy Administration, and Maryland Department of Environment reviewing policies and programs related to electricity regulation, energy efficiency, renewable energy, and climate change. She is familiar with regulatory proceedings of the Federal Energy Regulatory Commission as well as the operation of markets in the PJM Interconnection. Ms. Mudd also participates in working groups and proceedings before the Maryland Public Service Commission on behalf of the Department of Natural Resources and Maryland Energy Administration.

Under a contract between Exeter Associates and the National Association of Regulatory Utility Commissioners, Ms. Mudd served as the Executive Director for the National Council on Electricity Policy, a joint venture between the National Association of Regulatory Utility Commissioners (NARUC), the National Association of State Energy Officials (NASEO), the National Conference of State Legislatures (NCSL), National Association of Clean Air Agencies (NACAA), and the National Governors Association (NGA). In this capacity, Ms. Mudd facilitated meetings, workshops, and teleconferences on matters related to state electricity policy and regulation. Ms. Mudd also represented the National Council and its members on the National Action Plan on Energy Efficiency, a private-public initiative started in the fall of 2005 to create a sustainable and aggressive national commitment to energy efficiency through the collaborative efforts of gas and electric utilities, utility regulators, and other partner organizations.

In addition to her work with state government officials, Ms. Mudd has also conducted energy supply options studies and utility service assessments. Specifically, she provides detailed assessments and reviews of energy supply contracts and procurement strategies for U.S. government facilities. Working with the U.S. Air Force Civil Engineer Support Agency Ms. Mudd has identified more than \$5 million in savings attributed to utility billing errors and improved procurement and supply strategies. She has also analyzed and reviewed the various power supply options available to several U.S. Department of Energy Installations and National Laboratories, including strategies for the procurement of renewable energy resources.

At the Maryland Energy Administration, Ms. Mudd advised the Director and the Governor's Office on policy issues concerning greenhouse gas emissions, energy efficiency, and renewable energy. She coordinated the Maryland Interstate Agency Working Group on Climate Change, Maryland's first multi-agency effort addressing the issue of Climate Change, and contributed to and oversaw the development of the *GHG Emissions Reductions in Maryland, Volume I: Current State Government Activities, and Volume II: Maryland Climate Change Action Plan*. She also provided analysis to Legislative Services and members of the General Assembly as well as technical support during briefings and hearings. Ms. Mudd managed State programs on energy efficiency and conservation for the industrial, commercial, and transportation sectors. She developed proposals and managed contracts between the State and the U.S. Department of Energy and U.S. Environmental Protection Agency. She also managed a small staff for the implementation of the activities related to DOE's Industries of the Future, Clean Cities, Green Building, Biomass, and Distributed Energy Resources programs. Ms. Mudd helped to establish the Maryland Combined Heat and Power Application Center at the University of Maryland, creating strategic partnerships and identifying sources of funding; and she arranged for Maryland's participation in the DOE-funded Midwest Regional Carbon Sequestration Partnership.

While with PHB Hagler Bailly (now PA Consulting), Ms. Mudd conducted market studies on distributed energy resources and energy efficiency, including the expected technology development timelines, price comparisons, efficiency comparisons, and commercial applications. Ms. Mudd worked with government officials in Mexico City to adopt a process for identifying and analyzing energy efficiency projects. She also helped to conduct a full environmental review for Indonesia in support of a national environmental strategy, and examined the potential impact of privatization and restructuring of electric utilities on the environment in Asia and Latin America.

At Louis Berger International, Ms. Mudd worked on behalf of the United States Asia Environmental Partnership, a project funded by the U.S. Agency for International Development, which encourages energy efficiency and pollution prevention in ten Asian countries. She also coordinated research for best practices in environmental management, including the application of ISO 14001 as a certification tool.

Ms. Mudd began her professional career creating training and exchange programs at the Maryland International Center (World Trade Center Institute) in Baltimore. She managed contracts with the U.S. Agency for International Development, the U.S. Trade and Development Authority, and the U.S. Information Agency; and developed and managed programs focused on environmental management, energy management, and government policy. She organized training programs specifically related to the development of waste-to-energy projects, and worked closely with the Maryland Department of Business and Economic Development (at that time the Department of Employment and Economic Development) and the Baltimore Development Corporation. During her five years at the Center, Ms. Mudd developed proposals for grants and contracts procuring nearly \$1 million for the Center's programs.

**Publications and Consulting Reports:**

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland’s Natural Resources, Maryland Power Plant Research Program, PPRP-CEIR-15,” January 2010 (with Steven Estomin, Sari Fink, and Jennifer Rogers of Exeter Associates, Inc. and contributing authors from Versar, Inc. and Environmental Resources Management).

“Guidance for the Development of Renewable Energy Projects at Air Education and Training Command Bases,” prepared for the U.S. Air Force, Air Force Civil Engineer Support Center (Tyndall AFB, Florida) and the Air Education and Training Command (Randolph AFB, Texas), January 2010 (with Steven Estomin and Sari Fink).

“2009 Inventory of Renewable Energy Generators Eligible for the Maryland Renewable Energy Portfolio Standard,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources, January 2010 (with Steven Estomin and Sari Fink of Exeter Associates, Inc. and contributing authors from BCS, Inc.)

“Economic Transmission Upgrade Planning and Cost Allocation.” (draft report) Prepared for the National Renewable Energy Laboratory, September 2009 (with Sari Fink, Kevin Porter, and Jennifer Rogers)

“American Clean Energy and Security Act, H.R. 2454: Analysis of Emissions Cap and Benefit Costs Modeling.” (draft report) Prepared for the Maryland Department of the Environment, August 2009 (with Jennifer Rogers and Sari Fink)

“Generation Interconnection Policies and Wind Power: A Discussion of Issues, Problems, and Potential Solutions.” National Renewable Energy Laboratory, NREL Report No. SR-550-44508, February 2009 (with Sari Fink, Kevin Porter and Jennifer DeCesaro).

“Report on Distributed Generation in Maryland.” Prepared for the Maryland Power Plant Research Program, November 2008. (With Sari Fink.)

“PPRP Analysis in Support of the Regional Greenhouse Gas Initiative: Study Compendium.” Prepared for the Maryland Power Plant Research Program, October 2008. A Compendium of twelve technical briefs, of which five were authored by Christina Mudd.

“Generation Interconnection Policies and Wind Power.” (Draft Report) Prepared for the National Renewable Laboratory, U.S. Department of Energy, September 2008. (With Kevin Porter, Jennifer DeCesaro, and Sari Fink.)

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland’s Natural Resources, Maryland Power Plant Research Program, PPRP-CEIR-14,” January 2008 (With Steven Estomin and Sari Fink, of Exeter

Associates and contributing authors from Environmental Resources Management, and Versar, Inc.)

“The International Experience with Variable Renewable Energy Generation.” Prepared for the California Energy Commission, PIER Renewable Energy Technologies Program. February 2007 (With Kevin Porter and Michelle Weisburger.)

“State And Regional Policies that Encourage Utility Energy Efficiency Programs: Study Pursuant to Section 139(a) of the Energy Policy Act of 2005.” Prepared for the National Association of Regulatory Utility Commissioners and the National Association of State Energy Officers in support of the U.S. Department of Energy’s Report to Congress. July 2006. (with Lowell Unger, Alliance to Save Energy; Rich Sedano, Regulatory Assistance Project; and Kevin Porter)

“Inventory and Analysis of Combined Heat and Power Systems in Maryland.” Prepared for the Maryland Power Plant Research Program, April 2006. (With Michael Lee)

“Inventory of Renewable Energy Resources Eligible for the Maryland Renewable Energy Portfolio Standard,” Prepared for the Maryland Power Plant Research Program, March 2006 (with Jim McVeigh, Joseph Cohen, Kevin Porter and Michael Lee)

“The Potential for Biomass Cofiring in Maryland,” prepared for the Maryland Power Plant Assessment Division, March 2006. (With Steven Estomin and Michael Lee)

“Wind Power Options Assessment.” Prepared for the Maryland Power Plant Research Program and the Maryland Energy Administration, January 2006. (With Matthew Kahal and Steven Estomin.)

“Environmental Review Report INGenco Wholesale Power, LLC Landfill Gas-to-Energy Project Newland Park Landfill Wicomico County, Maryland.” Environmental Resources Management, Inc., Versar, Inc., Metametrics, Inc., and Exeter Associates, Inc., PPSE-NPL-01, January 2006. (With Tom Weissinger, P.E., Robert Sawyer, Daniel Goldstein, P.E. Robert Keating, Fred Kelley, and Peter Hall)

“Methods of Green Power Acquisition for State Government,” prepared for the Maryland Power Plant Assessment Division, December 2004.

“Economic Analysis of a Power Plant Fueled by Poultry Litter to be Located on Maryland’s Eastern Shore,” prepared for the Maryland Power Plant Assessment Division, December 2004.

“Idaho National Engineering and Environmental Laboratory Electric Power Supply Options Study,” prepared for the U.S. DOE, Federal Energy Management Program, November 2004.

“Assessment of Post-2004 Western Area Power Administration Federal Preference Power Entitlements for the Northern California Air Force Installations,” prepared for the Air Force Civil Engineering Support Agency, June 2004.

“An Initial View on Methodologies for Emission Baselines: Energy Efficiency Case Study” prepared for the Organization for Economic Co-Operation and Development (OECD) and the International Energy Agency, June 2000. (With Dan Violette and Marshall Kneipp)

“Hanford 1100 Area Case Study” prepared for the Superfund Redevelopment Program of the U.S. Environmental Protection Agency, February 2000.

“Analysis of Privatization Methods in the Electricity Sector,” prepared for USAID, October 1999. (With Keith Kozloff and Shvetank Shah)

“Environmental Markets in the Andean Region (Bolivia, Ecuador and Peru),” prepared for USAID, August 1999. (With Elizabeth Marcotte)

“Indonesia Environmental Management Country Strategy,” prepared for the Asian Development Bank, December 1998. (With Elizabeth Marcotte)

“Gap Analysis of Corporate Environmental Management Policy and the ISO 14001 Standard for Environmental Management,” prepared for a Fortune 500 Multi-National OEM, November 1998. (With Amit Dalal)

Expert Testimony Presented:

Before the Pennsylvania Public Utility Commission in Docket No. M-2009-2123945, Petition of Pennsylvania Power and Light Approval of its Smart Meter Technology Procurement and Installation Plan, October 2009, for the Pennsylvania Office of Consumer Advocate. Testified on smart grid issues. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utility Commission in Docket No. M-20092123948, Petition of Duquesne Light Company for Approval of its Smart Meter Technology Procurement and Installation Plan, October 2009, for the Pennsylvania Office of Consumer Advocate. Testified on smart grid issues.

Before the Pennsylvania Public Utility Commission in Docket No. R-2010-2214415, UGI Central Penn Gas, Inc. 2011 Base Rate Proceeding, May 2011. Testified regarding proposed energy efficiency programs, proposed costs and policy issues on behalf of the Pennsylvania Office of Consumer Advocate. (Case settled prior to cross-examination.)

## EMMA L. NICHOLSON

Dr. Nicholson is a senior economist at Exeter Associates, Inc. At Exeter, Dr. Nicholson's work includes modeling the economic impacts of proposed pricing mechanisms, market rule changes, and new infrastructure in electric power systems. She also specializes in cost allocation for electric utility rate proceedings, the operation and design of energy markets, evaluating alternative energy supply options for large retail customers, conducting econometric forecasts of energy requirements and peak demand, and preparing statistical analyses of energy market data.

### Education:

B.A. Economics and Political Science, University of Maryland College Park, May 2001

M.A. Economics, Georgetown University, December 2004

Ph.D. Economics, Georgetown University, August 2008.  
Dissertation: "Essays on Restructured Electricity Markets."

### Previous Employment:

2008-2009	Senior Consultant, Energy Practice Bates White, LLC. Washington, D.C.
2004-2006	Industry Economist (three summer internships) Federal Energy Regulatory Commission Washington, D.C.
2001-2003	Research Assistant Exeter Associates, Inc. Columbia, Maryland

### Professional Work Experience:

Dr. Nicholson's work at Exeter Associates, Inc. is primarily related to energy market analysis, econometric forecasting, evaluation of alternative energy supply options, and power supply acquisition. Dr. Nicholson performs class cost allocation studies through the use of utility cost of service models in support of testimony provided in rate case proceedings. Dr. Nicholson has also supported the Indiana Office of Utility Consumer Counselor in settlement negotiations and helped them evaluate the rate impacts of various class revenue spreads.

Dr. Nicholson was a key member of the modeling team that prepared the Long Term Electricity Report for the State of Maryland, which Exeter prepared for the State's Power Plant Research Program. Dr. Nicholson developed key inputs to the Study and reviewed the outputs of the

production cost model. Dr. Nicholson also drafted sections of the Report. Dr. Nicholson also led a study of the effects of wind generation on wholesale electricity prices in ERCOT in a study funded by the Department of Energy's National Renewable Energy Laboratory.

With Bates White, she examined NYMEX trade data to support the testimony of a Bates White expert testifying on behalf of the Federal Energy Regulatory Commission's (FERC) Office of Enforcement. Dr. Nicholson also created 20-year forecasts of electric generation capacity, hourly load and fuel costs for a load flow model used to estimate the economic and environmental impacts of a proposed 1,200 MW DC transmission line in New York.

Dr. Nicholson worked at the Federal Energy Regulatory Commission in the summers of 2004, 2005, and 2006. She interned at the Office of Administrative Litigation in 2004 and 2005 where she participated as a member of FERC staff in crafting a position about a proposed natural gas interconnection in south Louisiana. She also investigated the merits of a proposed transmission adder and examined the implications of PJM's Three-Pivotal Supplier Test. Dr. Nicholson worked in the Office of Energy Markets and Rates, Central Division, in 2006 where she investigated a complaint about a retroactive price change in the Midwest ISO. She also examined the effects of a proposed Midwest ISO rule change that would charge virtual bidders for uplift.

Dr. Nicholson began her professional career as a Research Assistant at Exeter Associates, where she developed the econometric models used to generate a ten-year forecast of electricity consumption and peak demand in the state of Maryland. She built various econometric and Excel-based models to estimate the financial impacts of proposed rate changes associated with various utility rate case proceedings.

Expert Testimony:

Before the Pennsylvania Public Utility Commission, Docket No. R-2010-2172665, September 2010, on behalf of the Pennsylvania Office of Consumer Advocate on cost allocation and rate design issues.

Before the Indiana Utility Regulatory Commission, Cause No. 43839, June 2010, on behalf of the Indiana Office of Utility Consumer Counselor on proper cost allocation methods.

Publications and Consulting Reports:

"Towards Equilibrium Offers in Unit Commitment Auctions with Nonconvex Costs," with Ramteen Sioshansi. *Journal of Regulatory Economics*, Vol. 40. No. 1, August 2011.

"The Relationship between Wind Generation and Balancing Energy Market Prices in ERCOT: 2007-2009, with Jennifer Rogers and K. Porter. National Renewable Energy Laboratory, November 2010.

“Abandon all Hope? FERC’s Evolving Standards for Identifying Comparable Firms and Estimating the Rate of Return,” with Jonathan Lesser, *The Energy Law Journal*. Vol 30:105; pp. 105-132, April 2009.

“Forecasted Electric Energy Consumption and Peak Demands for Maryland.” Exeter Associates, Inc., 2002. (Prepared for the Maryland Department of Natural Resources, Power Plant Research Program.)

Participation in Conferences, Seminars, and Workshops:

2006 and 2007 Midwestern Economic Association Meetings, presenter and discussant.

Peer reviewer for the *Journal of Environmental Economics and Management*. (2009 through present.)

## SARI A. FINK

Ms. Fink is an economist at Exeter Associates, Inc. and works principally in the areas of renewable energy, environmental economics, and market analysis. Prior to coming to Exeter, Ms. Fink had previous experience conducting research and economic analysis related to development of alternative energy sources, environmental issues, and climate change issues for the British Columbia Ministry of Energy, Mines, and Petroleum Resources. With Exeter Ms. Fink provides analysis on the economic impacts of energy and environmental policies. Ms. Fink assists the Maryland Department of Natural Resources, Maryland Energy Administration and Maryland Department of Environment reviewing policies and programs related to electricity regulation, energy efficiency, renewable energy, and climate change.

### Education:

A.A.S. Electronics Engineering Technology  
College of New Caledonia, Prince George, BC, 1990

B.S. Economics and Environmental Studies  
University of Victoria, Victoria, BC, 2000

M.A. Economics, University of Victoria, Victoria, BC, 2007

### Previous Employment:

2001-2003     Policy Advisor  
British Columbia Ministry of Energy, Mines & Petroleum Resources,  
Victoria, BC

2000-2001     Laboratory Instructor  
University of Victoria, Victoria, BC

1990-1996     Process Operator/Power Engineer  
FMC of Canada, Ltd.  
Prince George Hydrogen Peroxide Plant, Prince George, BC

### Professional Work Experience:

At the Ministry of Energy, Mines & Petroleum Resources, Ms. Fink advised Ministry executives on policies concerning alternative energy, environmental issues in the oil, gas and electricity sectors, and climate change. She provided input to the Provincial Energy Policy regarding the development of alternative energy resources in the province. Ms. Fink provided research on climate change issues and policies, and represented the Ministry on a National Intergovernmental Analysis and Modeling Working Group tasked with conducting an economic analysis of the Kyoto Protocol for Canada.

With Exeter Ms. Fink contributed substantially to the recent Exeter project, Long-term Electricity Report for Maryland (LTER). Ms. Fink participated in developing modeling assumptions, assessing modeling results, and drafting several sections of the LTER document. Ms. Fink also managed Exeter's participation in the Cumulative Environmental Impact Report (CEIR) for the Maryland Department of Natural Resources (DNR). The CEIR is a bi-annual report prepared by two DNR contractors that examines the impacts of power plant development in the State.

Ms. Fink works regularly on electric and gas regulation issues. She conducts research into rate cases and helps prepare internal memoranda for the Department of Energy on rate cases that involve DOE facilities. Ms. Fink is currently involved in conducting utility evaluations of Air Force bases for the Department of Defense. This includes examining electricity, natural gas, and water supply contracts and prices for each base and identifying where savings could be achieved. With respect to utility rates, Ms. Fink also monitors national electric, natural gas, and water rate activities and other issues, and prepares monthly reports for the DOE and the Air Force outlining developments that may potentially affect the cost of utilities to DOE and Air Force facilities, for example, utility rate applications.

Publications and Consulting Reports:

"Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland's Natural Resources", prepared for the Maryland Power Plant Research Program, PPRP-CEIR-16, January 2012, (with Michael Buckley, and Jennifer Rogers, of Exeter Associates and contributing authors from Environmental Resources Management, and Versar, Inc.) <http://esm.versar.com/pprp/ceir16/intro.htm>

"Long-Term Electricity Report for Maryland," prepared for the Maryland Power Plant Research Program, December 2011, (with Steven Estomin, Kevin Porter, Christina Mudd, Emma Nicholson, Michael Buckley, Jennifer Rogers, and Krista Ozarowski). [http://esm.versar.com/pprp/pprac/Longterm\\_Electricity\\_Report.htm](http://esm.versar.com/pprp/pprac/Longterm_Electricity_Report.htm)

"Planning for Wind Energy," Rynne, S. et al., American Planning Association, Planning Advisory Service Report Number 566, November 2011, (contributor).

"2010 Wind Technologies Market Report," prepared for the U.S. Department of Energy, June 2011, (contributor). <http://www1.eere.energy.gov/windandhydro/pdfs/51783.pdf>

"A Survey of Transmission Cost Allocation Methodologies for Regional Transmission Organizations," prepared for the National Renewable Energy Laboratory, February 2011, (with Kevin Porter, Christina Mudd, and Jennifer Rogers). <http://www.nrel.gov/docs/fy11osti/49880.pdf>

“The Relevance of Generation Interconnection Procedures to Feed-in Tariffs in the United States,” prepared for the National Renewable Energy Laboratory, October 2010, (with Kevin Porter and Jennifer Rogers). <http://www.nrel.gov/docs/fy11osti/48987.pdf>

“2009 Wind Technologies Market Report”, prepared for the U.S. Department of Energy, August 2010, (contributor).

“Transmission Cost Allocation Methodologies for Regional Transmission Organizations,” prepared for the National Renewable Energy Laboratory, July 2010, (with Jennifer Rogers and Kevin Porter). <http://www.nrel.gov/docs/fy10osti/48738.pdf>

“Examples of Wind Energy Curtailment Practices,” prepared for the National Renewable Energy Laboratory, July 2010, (with Jennifer Rogers and Kevin Porter). <http://www.nrel.gov/docs/fy10osti/48737.pdf>

GE Energy, “Western Wind and Solar Integration Study”, prepared for the National Renewable Energy Laboratory, May 2010, (Study Team contributor).

“Guidance for the Development of Renewable Energy Projects at Air Education and Training Command Bases”, prepared for the Air Force Civil Engineering Support Agency Tyndall Air Force Base and Air Force Education and Training Command Randolph Air Force Base, January 2010, (with C. Mudd, S. Estomin, K. Ozarowski, and M. Fullenbaum).

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland's Natural Resources”, prepared for the Maryland Power Plant Research Program, PPRP-CEIR-15, January 2010, (with Steven Estomin, Jennifer Rogers, and Christina Mudd, of Exeter Associates and contributing authors from Environmental Resources Management, and Versar, Inc.).

“Healthy” Human Development Indices,” Social Indicators Research, Journal No. 11205, Springer, Published online: December 27, 2009, (with Merwan H. Engineer and Nilanjana Roy).

“Wind Energy Curtailment Case Studies”, prepared for the National Renewable Laboratory, U.S. Department of Energy, October 2009, (with C. Mudd, K. Porter, and B. Morgenstern).

“Moving Beyond Paralysis: How States and Regions Are Creating Innovative Transmission Policies for Renewable Energy Projects”, The Electricity Journal, Volume 22, Issue 7, August/September 2009, (with Allison Schumacher and Kevin Porter).

2008 Wind Technologies Market Report, prepared for the U.S. Department of Energy, July 2009, (contributor).

A Review of Large-Scale Wind Grid Integration in the United States, prepared for The Energy Foundation, China Sustainable Energy Program, April 2009, (with K. Porter, C. Mudd, J. DeCesaro, and R. Wiser).

“State Transmission Infrastructure Authorities: The Story So Far,” *Electricity Journal*, March 2009, (with Kevin Porter).

“Generation Interconnection Policies and Wind Power: A Discussion of Issues, Problems, and Potential Solutions.” Prepared for the National Renewable Laboratory, U.S. Department of Energy, January 2009, (with Kevin Porter, Christina Mudd, and Jennifer DeCesaro).

“Report on Distributed Generation in Maryland.” Prepared for the Maryland Power Plant Research Program, November 2008, (with Christina Mudd).

“PPRP Analysis in Support of the Regional Greenhouse Gas Initiative: Study Compendium.” Prepared for the Maryland Power Plant Research Program, October 2008. A Compendium of twelve technical briefs, compilation and summaries by Sari Fink, who also previously co-authored two of the briefs.

“Annual Report on U.S. Wind Power Installation, Cost, and Performance Trends: 2007,” Prepared for U.S. Department of Energy, May 2008, (contributing author).

“Adjusting the Human Development Index for Mortality,” Presented at Canadian Economics Association 2008 Conference, May 2008, (with M. Engineer and N. Roy).

“State Transmission Infrastructure Authorities: The Story So Far,” Prepared for National Renewable Energy Lab, April 2008, (with Kevin Porter).

“Renewable Portfolio Standards in the United States,” Prepared for Lawrence Berkeley National Lab, April 2008, (contributing author).

“Bi-Monthly Transmission Updates,” of the National Wind Coordinating Collaborative, Prepared for National Renewable Energy Lab. 2007-2008, (with Kevin Porter).

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland's Natural Resources, Maryland Power Plant Research Program, PPRP-CEIR-14,” January 2008, (with Steven Estomin and Christina Mudd, of Exeter Associates and contributing authors from Environmental Resources Management, and Versar, Inc.)

## JENNIFER L. ROGERS

Ms. Rogers is an Economist at Exeter Associates, Inc. Prior to joining Exeter, Ms. Rogers worked as a research assistant at Northeastern University in the fields of industrial organization and labor economics. In graduate school, Ms. Rogers' studies focused on economic modeling and policy analysis. With Exeter, Ms. Rogers provides assistance in reviewing policies and programs related to conservation and energy efficiency; assists in the development of electric and natural gas sales forecasts; and conducts analysis on renewable energy initiatives, cost allocation, and rate design alternatives.

### Education:

B.A. Economics, Saint Mary's College of Maryland, St. Mary's City, MD, 2007

M.A. Economics, Northeastern University, Boston, MA, 2009

### Previous Employment:

2009-2011	Economic Research Assistant Exeter Associates, Inc.
2007-2008	Research and Teaching Assistant Northeastern University, Boston, MA
2008	Administrative Assistant Association for Cultural Economics International Conference, Boston, MA
2003-2007	Office Assistant St. Mary's College of Maryland, St. Mary's City, MD
2005	Intern: Brokerage Department Lehman Brothers, London, UK

### Professional Work Experience:

As a Research Assistant at Northeastern University, Ms. Rogers developed surveys to be used in a longitudinal labor economics study, tutored undergraduate economics students, and provided research on a variety of economics-related topics. As an administrative assistant for the

Association for Cultural Economics International Conference, Ms. Rogers served as the primary liaison between the Association and over 200 potential conference presenters.

Publications and Consulting Reports:

*Long-Term Electricity Report for Maryland*, prepared for the Maryland Department of Natural Resources Power Plant Research Program Pursuant to Executive Order 01.01.2010.16, December 2011, (with Steven Estomin, Kevin Porter, Christina Mudd, Emma Nicholson, Sari Fink, Michael Buckley, and Krista Ozarowski),  
[http://esm.versar.com/pprp/pprac/Longterm\\_Electricity\\_Report.htm](http://esm.versar.com/pprp/pprac/Longterm_Electricity_Report.htm).

“Wind Power and Electricity Markets,” Compiled for the Utility Wind Integration Group, October 2011 (with Kevin Porter and Sari Fink),  
<http://www.uwig.org/windinmarketstableOct2011.pdf>.

*Alternative Energy Resource Market Assessment*, National Association of Regulatory Utility Commissioners, A report for the Public Utility Commission of Ohio, September 2011 (with Kevin Porter of Exeter Associates, Inc., Ed Holt & Associates, Inc., and Sustainable Energy Advantage LLC),  
<http://www.naruc.org/Publications/FINAL%20full%20OH%20Holt%20SERCAT%20report.pdf>.

*Central Wind Power Forecasting Programs in North America by Regional Transmission Organizations and Electric Utilities: Revised Edition*, National Renewable Energy Laboratory, NREL Report No. NREL/SR-5500-51263, March 2011 (with Kevin Porter),  
<http://www.nrel.gov/docs/fy11osti/51263.pdf>.

*A Survey of Transmission Cost Allocation Methodologies for Regional Transmission Organizations*, National Renewable Energy Laboratory, NREL Report No. SR-5500-49880, February 2011 (with Kevin Porter, Sari Fink, and Christina Mudd),  
[http://www.nrel.gov/wind/systemsintegration/pdfs/2011/fink\\_transmission\\_cost\\_allocation.pdf](http://www.nrel.gov/wind/systemsintegration/pdfs/2011/fink_transmission_cost_allocation.pdf).

*The Relationship between Wind Generation and Balancing-Energy Market Prices in ERCOT: 2007–2009*, National Renewable Energy Laboratory, NREL Report No. NREL/SR-5500-49415, November 2010 (with Kevin Porter and Emma Nicholson),  
[http://www.nrel.gov/wind/systemsintegration/pdfs/2010/nicholson\\_balancing\\_energy\\_market.pdf](http://www.nrel.gov/wind/systemsintegration/pdfs/2010/nicholson_balancing_energy_market.pdf).

*The Relevance of Generation Interconnection Procedures to Feed-in Tariffs in the United States*, National Renewable Energy Laboratory, NREL Report No. NREL/SR-6A20-48987, October 2010 (with Kevin Porter and Sari Fink),  
<http://www.nrel.gov/docs/fy11osti/48987.pdf>.

*Transmission Cost Allocation Methodologies for Regional Transmission Organizations*, National Renewable Energy Laboratory, NREL Report No. NREL/SR-550-48738, July 2010 (with Kevin Porter and Sari Fink),  
[http://www.nrel.gov/wind/systemsintegration/pdfs/2010/fink\\_transmission\\_cost\\_allocation.pdf](http://www.nrel.gov/wind/systemsintegration/pdfs/2010/fink_transmission_cost_allocation.pdf).

*Examples of Wind Energy Curtailment Practices*, National Renewable Energy Laboratory, NREL Report No. NREL/SR-550-48737, July 2010 (with Kevin Porter and Sari Fink),  
<http://www.nrel.gov/docs/fy10osti/48737.pdf>.

*Status of Centralized Wind Power Forecasting in North America*, National Renewable Energy Laboratory, NREL/SR-550-47853, April 2010 (with Kevin Porter),  
<http://www.nrel.gov/docs/fy10osti/47853.pdf>.

“Bi-Monthly Transmission Updates,” of the National Wind Coordinating Collaborative, Prepared for National Renewable Energy Lab, August 2009 - June 2010 (with Kevin Porter).

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland’s Natural Resources, Maryland Power Plant Research Program, PPRP-CEIR-15,” January 2010 (with Steven Estomin, Christina Mudd, and Sari Fink of Exeter Associates, Inc. and contributing authors from Versar, Inc. and Environmental Resources Management).

## KRISTA M. OZAROWSKI

Ms. Ozarowski is an economics Research Assistant at Exeter Associates, Inc.

Ms. Ozarowski provides assistance in research for policies and programs related to conservation and energy efficiency, and conducts analyses on renewable energy initiatives. During her undergraduate career, Ms. Ozarowski focused her studies in the fields of public policy, econometrics, and game theory.

### Education:

B.A. Economics, University of Maryland, College Park, 2009

### Previous Employment:

2007-2009	Orientation Advisor University of Maryland, College Park, MD
2005	Intern: Clark & Anderson (PAs) Glen Burnie, MD

### Professional Work Experience:

As an Office Assistant at University of Maryland, Ms. Ozarowski transitioned new students into the University, designed and completed presentations with deans, and met with over 8,000 new students. Presented on new technologies at the NODA ("National Orientation Directors Association") Conference in March 2009.

With Exeter Ms. Ozarowski has worked with the U.S. Air Force Civil Engineer Support Agency to complete utility service assessments. Specifically, she assists in providing a detailed analysis of energy usage, supply contracts, and a review of billing practices. Most recently, Exeter has located over \$5 million in savings to the U.S. Air Force with these strategies.

### Publications and Consulting Reports

"Long-Term Electricity Report for Maryland," prepared for the Maryland Power Plant Research Program, December 2011, (with Steven Estomin, Kevin Porter, Christina Mudd, Emma Nicholson, Sari Fink, Michael Buckley, and Jennifer Rogers).

[http://esm.versar.com/pprp/pprac/Longterm\\_Electricity\\_Report.htm](http://esm.versar.com/pprp/pprac/Longterm_Electricity_Report.htm)

Guidance for the Development of Renewable Energy Projects at Air Education and Training Command Bases,” prepared for the Air Force Civil Engineering Support Agency Tyndall Air Force Base and Air Force Education and Training Command Randolph Air Force Base, January 2010, (with C. Mudd, S. Estomin, S. Fink, and M. Fullenbaum).

## MICHAEL T. BUCKLEY

Mr. Buckley is an Economic Research Assistant at Exeter Associates, Inc. Prior to joining Exeter, Mr. Buckley worked at the Maryland Department of the Environment as part of the Governor's Summer Internship Program. During his undergraduate career, Mr. Buckley concentrated his studies in the field of natural resource economics, as well as environmental and natural resource policy.

At Exeter, Mr. Buckley assists senior staff in researching policies and programs related to renewable energy, energy efficiency, demand response, and climate change. This includes tasks such as research and analyses of rate designs and incentive mechanisms that promote energy efficiency and renewable energy technologies. Mr. Buckley also assists staff in the development of electricity and natural gas price forecasts. Additionally, Mr. Buckley provides support in the evaluation and analysis of utility contracts and bills for large-scale customers.

### Education:

B.S. Agricultural Economics  
Concentration in Natural Resource Economics  
Colorado State University, Fort Collins, CO, 2010

### Previous Employment:

2009            Intern – Climate Change Division  
                    Air and Radiation Management Administration  
                    Maryland Department of the Environment  
                    Baltimore, MD

### Professional Work Experience:

At the Maryland Department of the Environment, Mr. Buckley gained considerable experience in Maryland's electric power industry. This involved the evaluation of a Maryland power company to determine its eligibility for Regional Greenhouse Gas Initiative (RGGI) allowances from the Long-Term Contract Set Aside Account. Mr. Buckley also assisted in the development of a Request for Proposals for a consulting firm to provide economic analyses and related support to the Department. Additional projects included a Cost Benefit Analysis of LEED Certification in Maryland and working as part of a policy research team to prepare and present a policy proposal to Maryland's Governor, Martin O'Malley.

Publications and Consulting Reports:

“Maryland Power Plants and the Environment: A Review of the Impacts of Power Plants and Transmission Lines on Maryland's Natural Resources”, prepared for the Maryland Power Plant Research Program, PPRP-CEIR-16, January 2012 (With Steven Estomin, Sari Fink, Christina Mudd, and Jennifer Rogers of Exeter Associates and contributing authors from Environmental Resources Management and Versar, Inc.).

“Long-Term Electricity Report for Maryland”, prepared for the Maryland Power Plant Research Program, December 2011 (With Steven Estomin, Sari Fink, Christina Mudd, Emma Nicholson, Krista Ozarowski, Kevin Porter, and Jenifer Rogers of Exeter Associates and contributions from ABB/Ventyx and BCS, Inc.).

“2010 Wind Technologies Market Report”, prepared for the National Renewable Energy Laboratory, June 2011 (contributor).

“Moving Beyond ‘Paper versus Plastic’: Mitigating the Environmental Impacts of Disposable Bags in Maryland”, Policy Recommendations for Governor Martin O’Malley, August 2009 (With Halley Epstein, Brian Frazee, Virginia Gordon, and Katherine Heller).

### Bid Summary

The OCA posted the RFP for services on our website, ran a legal notice advertisement in the Union Leader and Concord Monitor on February 19, 2012, and also provided it to thirteen consulting firms that work in the utility industry. The OCA received five proposals in response to the RFP.

The proposals received were from Backus, Meyer & Branch, LLP; Exeter Associates, Inc.; Scott J. Rubin; Synapse Energy Economics, Inc.; and Kenneth E. Traum.

The OCA had four staff members review the proposals, the Consumer Advocate, Meredith A. Hatfield, the Assistant Consumer Advocate, Rorie E.P. Hollenberg, the Finance Director, Donna L. McFarland, and the Utility Analyst, Stephen R. Eckberg. Each reviewer considered:

- Whether the proposals were complete and met the RFP requirements;
- The quality and extent of the bidder's experience and expertise in utility operations and regulation;
- Ability to complete the tasks necessary for the job;
- The knowledge and practical skills of both the firm and the staff assigned in the proposal;
- Any experience and qualifications in providing similar services to Commissions, Consumer Advocates, or other similar clients;
- The proposed hourly rate for the project;
- Availability during the timeframe of the docket;
- Potential conflicts of interest; and
- Distance and accessibility to the OCA's offices.

After this process, the reviewers determined that the OCA should seek approval to contract with Exeter Associates, Inc. (The OCA also contracted with Scott J. Rubin which was approved at the March 7, 2012, Governor and Council meeting.).

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