
EXETER

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REF: 200901

September 9, 2020

Ms. Kathryn H. Bowman
Louisiana Public Service Commission
Office of General Counsel
602 North Fifth Street (Galvez Building) (70802)
P.O. Box 91154
Baton Rouge, LA 70821-9154

Re: Southwest Louisiana Electric Membership Corporation
Application for Approval to Acquire and Install an Automated Metering System
Request for Cost Recovery and Related Relief

Dear Ms. Bowman:

Exeter Associates, Inc. (Exeter) is pleased to submit this proposal to assist the Staff of the Louisiana Public Service Commission (LPSC or Commission) in reviewing the August 20, 2020 request of Southwest Louisiana Electric Membership Corporation (SLEMCO) to implement a permanent advanced metering system (AMS) and a rate rider to recover the expenses associated with the installation of the AMS.

Background

SLEMCO is a rural electric cooperative serving approximately 109,000 retail customers throughout the following parishes: Acadia, Avoyelles, Evangeline, Iberia, Lafayette, St. Landry, St. Martin, and Vermilion. Currently, SLEMCO utilizes drive-by automated meter reading (AMR), installed between 2003 and 2007. With the majority installed in 2003 and 2004, the AMR meters have reached their average life expectancy of an estimated 15 years, and as such, SLEMCO is experiencing the following issues: an increase in the number of meter failures; delays in obtaining new meters from its vendor, Itron, and as a result is purchasing refurbished meters with lower life expectancies; and an increase in meter reading expenses due to missed reads and re-reads. Therefore, SLEMCO is proactively seeking Commission approval to install a permanent AMS.

Anticipating that the installation of an AMS can take two years to install, SLEMCO is requesting LPSC approval for an AMS in advance of its 2025 power supply contract

solicitation. SLEMCO is hoping to explore potential demand response opportunities through the AMS that could benefit its power supply solicitation. After reviewing multiple AMS bids received through a request for proposal (RFP) process, SLEMCO has chosen Honeywell as its preferred AMS provider. The AMS is expected to reduce meter reading costs, reduce the number of delinquency write-offs, reduce costs associated with disconnects and reconnects, and reduce overtime expense. The net impact of these benefits is projected to provide a positive net present value of \$7.05 million over a 12-year period. In recognition of the significant investment of the AMS, SLEMCO is also requesting Commission approval of a rate rider to recover AMS-related expenses that are prudently incurred.

Scope of Assistance

Exeter proposes to review and evaluate the SLEMCO filing to ensure that the intent of Commission Order R-29213 was met, that the selected vendor was chosen through a competitive selection process, and that the proposed AMS is cost-effective and in the public interest. Issues for consideration include the compatibility of the new system with back office, meter and data management, and billing systems; outage management plans with the selected system; compatibility of the technology, in particular the meters, with the climate; the benefits assumed in the system; the projected life of the system; opt-out cost impacts and proposed cost recovery; and the plans for SLEMCO to explore demand response. Exeter will seek to determine whether a fair and thorough evaluation of the metering technologies available at the time was conducted through the RFP process, including the cost-effectiveness of competing technology solutions.

In addition, Exeter is prepared to review how the AMS application has followed the Commission's orders related to capital outlays, outage management, and service reliability, and whether the AMS will provide reliable service at the lowest reasonable cost. Furthermore, as part of its cost-effectiveness review, Exeter proposes that it review how the AMS will improve SLEMCO's utility operations and whether the proposed cost rider meets the Commission's rules outlined in SLEMCO's last rate case (Order No. U-33452).

Plan of Action

Exeter proposes to provide our assistance by performing the following tasks:

- Detailed review of SLEMCO's filing, which includes the application request and direct testimony of three witnesses;
- Draft discovery and analyze responses;
- Prepare an initial memo-report identifying findings and recommendations;
- Participate in informal meetings with Staff and SLEMCO, as needed;
- Participate in formal status conferences, pretrial conferences, and hearings, as needed;

- Participate in conference calls, meetings, and conferences with the LPSC and its Staff;
- Prepare prefiled direct and rebuttal testimony in support of Staff's recommendations;
- Assist Staff with trial preparation, including cross-examination questions;
- Attendance at certification hearing(s), as needed; and
- Assist in the analysis of potential stipulation terms, and the drafting of applicable briefs, pleadings, motions, and orders of the LPSC.

Exeter will assist Staff in the above necessary actions through to the issuance of the final Commission Order. Exeter is available to provide services for the 12 months specified under Section III – Period of Representation in the RFP; however, Exeter anticipates that the time period required for completion of this proceeding would be five to six months.

Qualifications

Exeter is well-qualified to provide the assistance that the Commission requires. Exeter has extensive experience addressing utility regulatory matters before the LPSC, as well as other state and federal regulatory agencies. The firm's experience in work before the LPSC includes extensive work in analyzing the operations, books, and records of utility companies, providing expert testimony on all aspects of utility regulation and ratemaking, and evaluating AMS filings. Exeter has also assisted state regulatory commission staffs and offices of consumer advocate with the review of utility AMS investments in Louisiana, Maine, and Pennsylvania. The issues addressed in this work have included:

- Evaluation of AMS's and technologies, including power line carrier, radio frequency mesh, and open platform communication options;
- Analysis of cost-benefit models and assumptions associated with AMS's and energy efficiency and demand response programs;
- Evaluation of "smart meter" consumer programs and gateway technologies;
- Consideration of safety and privacy issues associated with "smart meter" communication protocols;
- Evaluation of just and reasonable costs and prudent investments associated with providing reliable and quality service;
- Cost recovery and rate design related to cost recovery of AMS's;
- Appropriate accounting standards and practices for utilities, public utility accounting, and generally accepted accounting standards;
- Appropriate ratemaking adjustments to utility accounting records;
- Recoverable expenses for ratemaking purposes; and

- Costs passed through a Formula Rate Plan (FRP) that are considered reasonable and prudent, and appropriate and/or eligible for recovery pursuant to commission orders, which are necessary for the provision of electric service and which have or will produce just and reasonable rates.

Exeter is especially well-suited to conduct this investigation because of its directly relevant Louisiana experience. Over the past 35 years, Exeter has worked for the Commission on numerous regulatory proceedings dealing with electric utility matters and numerous proceedings for a variety of Louisiana investor-owned utilities and rural electric cooperatives. Some of the directly relevant projects that Exeter has undertaken for the Commission include:

- Assistance with Southwestern Electric Power Company's (SWEPCO's) purchases of energy and capacity from wind energy projects (Docket Nos. U-32095 and U-32814);
- Investigation of Central Louisiana Electric Company's (Cleco's) fuel adjustment filings for the years 2003-2008;
- Investigation of Cleco's resource planning, procurement practices, and incurred fuel costs for the period January – October 2005 (initiated by the Commission as a result of the effect of Hurricanes Katrina and Rita on the fuel and purchased power cost of Louisiana electric utilities);
- Review of Cleco's application for Commission certification of the acquisition of the Coughlin Power Station from its affiliate, Cleco Evangeline, LLC;
- Investigation into whether Trans Louisiana Gas Company (TransLa) and Louisiana Intrastate Gas Company included inappropriate or imprudent costs in their purchased gas cost recovery mechanisms from 1981-1994;
- Review of the Rate Stabilization Pilot Program of TransLa for the 2004-05 through 2006-07 winter seasons;
- Audit of the purchased gas cost adjustment (PGA) filings of TransLa and Louisiana Gas Services for the period April 2012 – March 2014 (Docket No. U-33480); and
- Review of Concordia Electric Cooperative's application for approval of an Updated Advance Metering Program (Docket No. U-35456).

In addition to our extensive work with the LPSC Staff, the following projects offer Exeter's experience that is directly relevant to the prudence review and certification of SLEMCO's smart meter system.

- Review of Duquesne Light Company's Smart Meter Technology Procurement and Installation Plans (2009, 2012, 2015);

- Review of PPL Electric Utilities' Initial Smart Meter Technology Procurement and Installation Plan in 2009 and PPL's Final Smart Meter Technology Procurement and Installation Plan (2014); and
- Review of PECO Energy Company's petition for Approval of its Smart Meter Universal Deployment Plan (2009).

Proposed Team

We propose that this project be conducted under the direction of Jerome Mierzwa, a Principal at Exeter with over 30 years of public utility regulatory experience, including extensive regulatory experience within the State of Louisiana. Mr. Mierzwa has participated in developing utility class cost-of-service studies, and has presented testimony sponsoring electric, 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. In addition to serving as the project manager, Mr. Mierzwa will be consulted to provide additional expertise with respect to utility issues and practices in Louisiana.

Stacy Sherwood, a Senior Analyst at Exeter, will serve as the primary sponsor of testimony for this docket. Ms. Sherwood will consult with Christina Mudd, also a Principal at Exeter, regarding findings and recommendations related to the AMS. Both Ms. Mudd and Ms. Sherwood have previously participated in the review of utility smart meter programs on behalf of state regulatory commission staffs or consumer advocates as is evident in the attached resumes, as well as a proceeding currently before the LPSC.

While at Exeter, Ms. Sherwood has testified regarding the smart meter installation plan in Pennsylvania Public Utility Commission (PUC) Docket No. P-2015-2497267, Petition of Duquesne Light Company for approval of its Smart Meter Procurement and Installation Plan. Prior to joining Exeter, Ms. Sherwood worked for six years with the Maryland Public Service Commission (PSC) reviewing advanced metering plans for Maryland's investor-owned utilities—Baltimore Gas & Electric Company and Potomac Electric Power Company—as well as reviewing the advanced metering plans of Southern Maryland Electric Cooperative. Ms. Sherwood has also filed testimony in the following cases before the Pennsylvania PUC: Docket No. M-2015-2515642, Petition of PPL Electric Utilities Corporation for approval of its Act 129 Phase III Energy Efficiency and Conservation Plan; Docket No. M-2015-2515375, Petition of Duquesne Light Company for approval of its Act 129 Phase III Energy Efficiency and Conservation Plan; and Docket No. M-2015-2477174, Petition of UGI Utilities, Inc. for approval of its Phase II Energy Efficiency and Conservation Plan. Ms. Sherwood provides ongoing assistance to the Pennsylvania Office of Consumer Advocate (OCA) and the Arkansas Office of Attorney General on their respective utility electric and natural gas energy efficiency plans and collaborative working groups. Most recently, Ms. Sherwood has been working with LPSC Staff on Concordia Electric Cooperative's application for approval of its AMS (Docket No. U-35456).

Ms. Mudd has experience with electric utility matters in a number of jurisdictions, including work on advanced metering and energy efficiency dockets in Pennsylvania, Maine, and Arkansas. Specifically, Ms. Mudd led Exeter's work in Duquesne Light Company's Smart Meter Technology Procurement and Installation Plans in 2009 and 2012. Ms. Mudd also participated in the review of PPL's Initial Smart Meter Technology Procurement and Installation Plan in 2009 in PUC Docket No. M-2009-2123945; PPL's Final Smart Meter Technology Procurement and Installation Plan in 2014 in PUC Docket No. M-2014-2430781; and the Petition of PECO Energy Company for Approval of its Smart Meter Universal Deployment Plan in PUC Docket No. M-2009-2123944. Ms. Mudd also evaluated the cost-effectiveness of proposed energy efficiency and conservation programs and provided testimony in PUC Docket No. M-2012-2333992, Petition of PECO Energy Company for approval of its Act 129 Phase II Energy Efficiency and Conservation Plan; PUC Docket No. M-2015-2515642, Petition of PPL Electric Utilities Corporation for approval of its Act 129 Phase III Energy Efficiency and Conservation Plan; and Docket No. M-2015-2515375, Petition of Duquesne Light Company for approval of its Act 129 Phase III Energy Efficiency and Conservation Plan.

Ms. Mudd and Ms. Sherwood will review the technical aspects and cost-effectiveness of SLEMCO's AMS program in accordance with the requirements outlined in the Commission's AMS General Order dated September 22, 2009 in Docket No. R-29213. In addition, the proposed team members will ensure that any proposed cost recovery mechanism results in equitable recovery of prudently incurred AMS expenses across various rate classes. Other members of Exeter's staff will also be available to assist, if necessary.

Exeter's corporate qualifications are provided in Attachment A to the proposal. Detailed resumes for Exeter's key personnel are included as Attachment B to this proposal. Exeter would be pleased to provide additional copies of the complete resumes of our key project team members or any other additional information the Commission may find helpful.

Cost Proposal

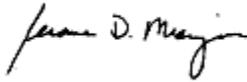
Exeter proposes to provide the assistance described above for a budget not to exceed \$19,000 for professional services, plus direct expenses not to exceed \$1,800. Exeter's budget estimate includes the costs associated with a one-person trip to Louisiana for two days of hearings/conferences. Exeter will bill for professional services at our standard hourly billing rates, which range from \$80 per hour for research assistants to \$195 per hour for principals. The billing rate for both Mr. Mierzwa and Ms. Mudd is \$195 per hour, and the rate for Ms. Sherwood is \$125 per hour. Direct expenses will be billed at State-authorized rates as specified in the Travel Policies and Procedures Memorandum issued by the State of Louisiana, Division of Administration in effect at the time such expenses are incurred.

Conflict of Interest

Please note that Exeter has no business relationship with SLEMCO or any of its affiliates, nor have we ever had such a relationship. We also have no business relationship with any advanced meter providers, such as Honeywell. Thus, we have no conflict of interest that could impair or restrict our ability to provide assistance and objective advice to Staff.

If you have any questions of either a technical or contractual nature, please do not hesitate to call. We look forward to again being of service to the Commission and the ratepayers of Louisiana.

Very truly yours,



Jerome D. Mierzwa
President

JDM/ccc
Enclosure

ATTACHMENT A

EXETER ASSOCIATES, INC.

**10480 LITTLE PATUXENT PARKWAY
SUITE 300
COLUMBIA, MARYLAND 21044**

CORPORATE QUALIFICATIONS

EXETER ASSOCIATES, INC.
CORPORATE QUALIFICATIONS -- GENERAL

Exeter Associates, Inc. provides economic and financial consulting services in the areas of public utility regulation, energy, and antitrust economics. The firm maintains the highest standards in the application of economic and financial analysis to both quantitative and policy issues in the electric, gas, and other industries.

Exeter Associates, Inc. is distinguished by the breadth of experience and expertise of its senior professionals. Each holds an advanced degree in economics or a related field with extensive experience in his or her area of expertise, and each is a recognized expert in one or more of the areas of analysis and research shown below.

Public Utility Regulation (Electric, Gas, and Water/Wastewater)

- Alternative regulatory structures
- Local competition
- Industry restructuring
- Privatization
- Wholesale/retail wheeling
- Mergers and acquisitions
- Costing methodologies
- Imputation standards/non-accounting safeguards
- Structural separation remedies
- Rate structure and rate design
- Marginal costs and rates
- Rate of return
- Affiliate company relationships
- Revenue requirements
- Utility financial condition
- Utility productivity studies
- Depreciation

Econometric and Energy Modeling

- Demand and cost analysis
- Energy supply forecasting
- Load forecasting
- Conservation and load management analysis
- Economic analysis of environmental policies

Industry Analysis

- Electric utilities
- Water/sewer utilities
- Oil and natural gas

Cost/Benefit Analysis

Life-Cycle Cost Analysis

Financial Modeling and Analysis

Evaluation/Acquisition of Alternative Utility Supplies

ELECTRICITY

Exeter staff has been continuously involved in electric utility industry regulatory issues since the Company began operating in 1981, and the experience of its senior staff predates the formation of the Company. Exeter has provided expert witness testimony in hundreds of regulatory proceedings before state and federal regulatory commissions. This testimony has been on behalf of commission staffs, consumer advocates, and federal and state government clients. In addition, Exeter personnel have provided consulting and prepared reports/studies addressing broad policy issues facing particular states and industry-wide regulatory concerns. These testimonies and studies have involved such recent issues as industry restructuring, wholesale and retail open access, privatization of utility systems, stranded costs, contract evaluation/negotiation, and the development or evaluation of performance-based mechanisms (alternative forms of regulation) for electric utilities. Most recently, Exeter has also examined and provided testimony on renewable energy, energy conservation, demand response, procurement of default electricity supply service, and construction and siting of power plants.

Exeter staff has extensive experience in providing expert testimony and consulting on revenue requirements, rate of return, load forecasting, demand side management, depreciation, cost of service, prudence, rate design, fuel costs, purchase power costs, competition (both wholesale and retail), utility resource planning, cogeneration analysis and merger issues.

NATURAL GAS

Exeter Associates has been extensively involved in natural gas regulatory issues since the mid-1970's. After the adoption of Federal Energy Regulatory Commission (FERC) Order No. 636 and subsequent unbundling of interstate pipeline service in 1993, local gas distribution companies (LDCs) have become entirely responsible for the gas procurement function, a responsibility primarily borne by interstate pipelines prior to adoption of FERC Order No. 636. Exeter's engagements have included evaluation of LDC gas procurement practices and policies in the post-Order No. 636 environment on behalf of public utility commission (PUC) staffs and consumer advocates. Exeter has provided expert witness assistance to PUC staffs and consumer advocates in numerous regulatory proceedings before state and federal regulatory authorities addressing revenue requirements, cost allocation and rate design issues. Exeter professionals have advised state and federal clients concerning issues related to natural gas industry restructuring. This includes addressing issues such as performance-based gas procurement programs, stranded costs, unbundling of LDC services, and new regulations to promote competition under conditions of an evolving market structure. Exeter has also assisted clients in the direct procurement of natural gas supplies and contract negotiations in the continually evolving competitive gas acquisition markets.

WATER/WASTEWATER

Exeter Associates' personnel have extensive experience in designing water/wastewater rates, performing cost allocation studies, evaluating revenue requirements, and addressing other aspects of water and wastewater regulation. Because of the substantial capital improvements required by water utilities to comply with the quality standards of the Safe Drinking Water Act (SDWA) and its amendments, significant increases in water rates are often required. Exeter has extensive experience in addressing the allocation and recovery of SDWA-related costs.

In addition to the staff's providing expert testimony in numerous regulatory proceedings throughout the U.S. on behalf of state and federal government clients, Exeter personnel have assisted clients in negotiations for water supply, rates, service characteristics, and billing arrangements. In addition to these issues, Exeter personnel have addressed the adequacy of infrastructure, privatization of federally-owned water treatment and storage facilities and water distribution systems, and issues related to fire protection.

**EXETER ASSOCIATES, INC.
RECENT CLIENTS**

Exeter Associates' professional staff members have served a broad range of client organizations including public service commissions, consumer advocates, government agencies and private firms. Recent clients include:

Arkansas Public Service Commission	National Nuclear Security Administration
Brookhaven National Laboratory	National Renewable Energy Laboratory
Center for Resource Solutions	New Hampshire Office of Consumer Advocate
Colorado River Commission of Nevada	Northrop Grumman
Community Legal Services, Inc.	Office of the Ohio Consumers' Counsel
Defense Logistics Agency Energy	Pennsylvania Office of Attorney General
Delaware Division of the Public Advocate	Pennsylvania Office of Consumer Advocate
Delaware Public Service Commission	Public Utilities Commission of Ohio
Fermi National Accelerator Laboratory	Regulatory Assistance Project
General Electric	Rhode Island Division of Public Utilities & Carriers
General Services Administration	SLAC National Accelerator Laboratory
Hawaii Public Utilities Commission	Strategic Petroleum Reserve
Illinois Citizens Utility Board	Sustainable Energy Advantage
Imperial Irrigation District	Tennessee Attorney General – Consumer Advocate and Protection Division
Indiana Office of Utility Consumer Counselor	Tennessee Regulatory Authority
Lawrence Berkeley National Laboratory	Township of Bedminster, New Jersey
Lawrence Livermore National Laboratory	U.S. Air Force – Air Force Civil Engineer Center
Louisiana Public Service Commission	U.S. Army – Commercial Utilities Program, U.S. Army Corps of Engineers
Maine Office of the Public Advocate	U.S. Department of Defense
Maine Public Utilities Commission	U.S. Department of Energy
Maryland Department of the Environment	Utah Office of Consumer Services
Maryland Energy Administration	The Utility Reform Network
Maryland Office of People's Counsel	Western Area Power Administration – Desert Southwest Region
Maryland Power Plant Research Program	Western Interstate Energy Board
Maryland Public Service Commission	
Massachusetts Attorney General – Office of Ratepayer Advocacy	
Midwest Renewable Energy Tracking System	
National Association of Regulatory Utility Commissioners	

EXETER ASSOCIATES, INC.
KEY STAFF MEMBERS

EXETER ASSOCIATES, INC. specializes in serving clients engaged in litigative, policy-making, and decision-making activities and in providing the highest quality consulting services to clients in the areas of regulatory policy, industry restructuring, utility supply planning, contract negotiation, and on a wide range of other contemporary economic issues. The senior professional staff has provided expert testimony on numerous occasions before state, federal, and foreign regulatory agencies; state and federal courts, the Federal Energy Regulatory Commission, the U.S. Postal Rate Commission, and U.S. Congress and state legislative committees and subcommittees. Summaries of the qualifications of Exeter's senior staff are presented below:

MR. DWIGHT D. ETHERIDGE is a principal at Exeter Associates with 29 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, revenue requirements and benchmarking studies. Mr. Etheridge supports clients on multiple utility issues, including planning and options studies, cost analyses related to negotiations and utility rate cases, power procurement and price projections, risk management and energy price hedging programs, and utility infrastructure analyses. While employed by an investor-owned utility, Mr. Etheridge held increasingly more responsible management positions in strategic, deregulation, pricing, and planning areas, including reporting to the CEO during electric deregulation and a merger of two utilities. 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, boards of directors and the public. He has presented expert testimony on over 30 occasions and has acted as a spokesperson numerous times on television, radio, and in print. Mr. Etheridge holds a B.S. in business administration from the University of California, Berkeley.

MR. JEROME D. MIERZWA is a principal of Exeter Associates and a senior analyst with 35 years of public utility regulatory experience. At Exeter, Mr. Mierzwa has conducted purchased gas cost allocation analysis and rate design analysis, management audits and similar investigations of the natural gas supply and procurement policies and practices of interstate gas pipelines and local distribution companies (LDCs). Most recently, 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, expenses and revenues. Mr. Mierzwa holds a B.S. in marketing and an M.B.A. in finance from Canisius College.

MS. CHRISTINA R. MUDD is a principal at Exeter Associates, Inc. with 20 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. Ms. Mudd participates in the Maryland staff working group for the Regional Greenhouse Gas Initiative, 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. Ms. Mudd also provides technical support to federal agencies by reviewing utility supply contracts and rates, and reviewing the economic feasibility of alternative energy projects. Ms. Mudd served as the Executive Director of the National Council on Electricity Policy from January 2005 to December 2006. The National Council is a partnership between the National Association of Regulatory Utility Commissioners, National Association of State Energy Officials, National Governors' Association, and National Conference of State Legislators. Ms. Mudd holds a B.S. in political science and biology from James Madison University and an M.A. in international affairs with a concentration in economics and energy policy from Johns Hopkins University School for Advanced International Studies.

MR. KEVIN L. PORTER is a principal of Exeter Associates and a senior analyst with nearly 30 years of experience. Mr. Porter has been active in renewable energy analysis and research since 1984. His scope of expertise includes the technical and economic status of renewable energy technologies, design and implementation of state and federal renewable energy policies, transmission access and pricing for renewable energy technologies, and electricity policy in general. He has advised the National Renewable Energy Laboratory, the State of Maryland, the American Wind Energy Association, and other clients on renewable energy and green power procurement and policy design, and has written or co-written over 60 reports, conference papers, and journal articles. He holds a B.S. in environmental studies from Lewis & Clark College in Portland, Oregon, and an M.A. in economics from The American University in Washington, D.C.

DR. SERHAN OGUR is a principal of Exeter Associates with over 18 years of experience in the energy industry specializing in organized wholesale (Regional Transmission Organization/Independent System Operator) and retail electricity markets. His diverse background comprises energy management and consulting; analysis, design, and reporting of RTO electricity markets and products; and state and federal regulation of electric utilities. Dr. Ogur's recent engagements at Exeter include analysis of conventional and renewable electricity supply contracts, utility rates and tariffs, and energy markets and prices; power procurement; default electric service design; project evaluation; assessment of demand response opportunities; devising congestion hedging strategies; and price forecasting. Dr. Ogur holds a B.A. in economics from Bogazici University, Turkey and a Ph.D. in economics from Northwestern University.

ATTACHMENT B

EXETER ASSOCIATES, INC.

10480 LITTLE PATUXENT PARKWAY

SUITE 300

COLUMBIA, MARYLAND 21044

RESUMES

JEROME D. MIERZWA

Mr. Mierzwa is a Principal of Exeter Associates, Inc., with over 25 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

Previous Experience

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

1990-1995

Columbia Gas of Ohio (PUCO, Case No. 90-17-GA-GCR)

City of Great Falls Wastewater Utility (MT PSC Docket No. 90.10.66)

City of Great Falls Water Utility (MT PSC Docket No. 90.10.67)

Cincinnati Gas & Electric Company (PUCO, Case No. 91-16-GA-GCR)

Louisiana Gas Service Company (LA PSC Docket No. U-19237)

Equitable Gas Company and Jefferson Gas Company (PA PUC Docket No. R-00912164)

Peoples Natural Gas Company (PA PUC Docket Nos. R-00922180 and R-00922206)

UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-922323)

Providence Water Supply Board (RI PUC Docket No. 2048)

Dallas, Harvey's Lake, Noxen and Shavertown Water Companies (PA PUC Docket Nos. R-922326, R-922327, R-922328 and R-922329)

Columbia Gas of Ohio (PUCO, Case No. 92-18-GA-GCR)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00922499)

Philadelphia Suburban Water Company (PA PUC Docket No. R-00922476)

The Peoples Natural Gas Company (PA PUC Docket No. R-00932598)

Dauphin Consolidated Water Supply Company and General Waterworks of Pennsylvania, Inc. (PA PUC Docket No. R-00932604)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00932548)

National Fuel Gas Supply Corporation (Federal Energy Regulatory Commission Docket No. RP93-73-000)

UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-00932674)

Sierra Pacific Power Company, Gas Operations (NV PSC Docket No. 93-4087)

Ohio Gas Company (PUCO, Case No. 93-14-GA-GCR)

UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-00932927)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00932885)

The Peoples Natural Gas Company (PA PUC Docket No. R-00943028)

Citizens Gas & Coke Utility (IURC, Cause No. 37399-GCA41)

UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-00943064)

National Gas & Oil Corporation (PUCO, Case No. 94-221-GA-GCR)

Trans Luisiana Gas Company (LA PSC, Docket No. U-19997)

NorAm Gas Transmission Company (Federal Energy Regulatory Commission Docket No. RP94-343-000)

UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-00953297)

The Peoples Natural Gas Company (PA PUC Docket No. R-00953318)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00953299)
UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-00953374)
Atlanta Gas Light Company (GA PSC Docket No. 5650-U)
United Cities Gas Company (GA PSC Docket No. 5651-U)
Eastern and Pike Natural Gas Companies (PUCO, Case Nos. 95-215-GA-GCR and 95-216-GA-GCR)
Tennessee Gas Pipeline Company (Federal Energy Regulatory Commission Docket No. RP95-112-000)
1996-2000
North Shore Gas Company and Peoples Gas Light and Coke Company (ICC Docket Nos. 95-0490 and 95-0491)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00953487)
The Peoples Natural Gas Company (PA PUC Docket No. R-00963563)
North Penn Gas Company and PFG Gas, Inc. (PA PUC Docket No. R-00963636)
Dayton Power & Light Company (PUCO, Case No. 96-220-GA-GCR)
West Ohio Gas Company (PUCO, Case No. 96-221-GA-GCR)
Northern Illinois Gas Company (ICC Docket No. 96-0386)
National Fuel Gas Distribution (PA PUC Docket No. R-00963779)
Equitable Gas Company (PA PUC Docket No. R-00973895)
Southwest Gas Corporation (NV PSC Docket No. 97-2005)
Kent County Water Authority, (RI PUC Docket No. 2555)
UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-00974012)
Pennsylvania American Water Company (PA PUC Docket No. R-00973944)
Commonwealth Gas Services, Inc. (VA SCC Case No. PUE970455)
Consumers Pennsylvania Water Company, Shenango Valley Division (PA PUC Docket No. R-00973972)
Sierra Pacific Power Company, Water Department (NV PSC Docket No. 97-9020)
Southern Union Gas Company (City of El Paso, Texas) Inquiry into Southern Union Gas Company's Purchased Gas Adjustment Clause
East Ohio Gas Company (PUCO Case No. 97-219-GA-GCR)
Columbia Gas of Ohio, Inc. (PUCO Case No. 98-222-GA-GCR)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00974167)
Pawtucket Water Supply Board (RI PUC Docket No. 2674)
Equitable Gas Company (PA PUC Docket No. R-00984279)
East Ohio Gas Company (PUCO Case No. 97-219-GA-GCR)
UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-00984352)
Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP98-203-000)
Columbia Gas of Ohio, Inc. (PUCO Case No. 98-223-GA-GCR)

North Shore Gas Company and Peoples Gas Light and Coke Company (ICC Docket Nos. 98-0819 and 98-0820)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00984497)

Delmarva Power and Light Company (DE PSC Docket No. 98-524)

The Peoples Natural Gas Company (PA PUC Docket No. R-00994600)

Nicor Gas Company (ICC Docket No. 99-0127)

Elizabethtown Gas Company, New Jersey Natural Gas Company, Public Service Electric & Gas Company and South Jersey Gas Company (NJ BPU Docket Nos. GX99030121 - GO99030125)

New Jersey Natural Gas Company (New Jersey Board of Utilities Docket No. G099030122)

Carnegie Natural Gas Company (PA PUC Docket No. C-00970942)

The Peoples Natural Gas Company (PA PUC Docket No. R-00994782)

Equitable Gas Company (PA PUC Docket No. R-00994784)

City of Newport-Water Division (RI PUC Docket No. 2985)

Entergy Gulf States, Inc. (Public Utilities Commission of Texas Docket No. 2111)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00994785)

UGI Utilities, Inc. - Gas Division (PA PUC Docket No. R-00994786)

2001-2005

Cincinnati Gas & Electric Company (CIN PUC) of Ohio Case No. 99-218-GA-GCR)

T.W. Phillips Gas and Oil Company (PA PUC Docket No. R-00994790)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00994898)

Equitable Gas Company (PA PUC Docket No. R-00005067)

PECO Energy Company (PA PUC Docket No. R-00005285)

UGI Utilities, Inc. -- Gas Division (PA PUC Docket No. R-00005281)

Providence Water Supply Board (RI PUC Docket No. 3163)

Nicor Gas Company (ICC Docket Nos. 00-0620/00-0621)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00005832)

The Peoples Natural Gas Company (PA PUC Docket No. R-00016115)

Equitable Gas Company (PA PUC Docket No. R-00016132)

Dayton Power & Light Company (PUCO Case No. 00-220-GA-GCR)

UGI Utilities, Inc. -- Gas Division (PA PUC Docket No. R-00016376)

Northern Shore Gas Company (ICC Docket No. 01-0469).

The Peoples Gas Light and Coke Company (ICC Docket No. 01-0470)

T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-00016898)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00016789)

Northern Illinois Gas Company (ICC Docket No. 02-0067)

The Peoples Natural Gas Company (PA PUC Docket No. R-00027134)
Equitable Gas Company (PA PUC Docket No. R-00027135)
UGI Utilities, Inc. -- Gas Division (PA PUC Docket No. R-00027388)
The Cincinnati Gas & Electric Company (PUCO Case No. 01-218-GA-GCR)
T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-00027888)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00038101)
The Peoples Natural Gas Company (PA PUC Docket No. R-00038170)
Equitable Gas Company (PA PUC Docket No. R-00038166)
UGI Utilities, Inc. – Gas Division (PA PUC Docket No. R-00038411)
Columbia Gas of Ohio, Inc. (PUCO Case No. 02-221-GA-GCR)
The Peoples Gas Light and Coke Company (ICC Docket No. 01-0707)
UGI Utilities, Inc. – Gas Division (PA PUC Docket No. R-00049422)
PFG, Inc. and North Penn Gas Company (PA PUC Docket No. R-00049424)
East Ohio Gas Company (PUCO Case No. 03-219-GA-GCR)
Southwest Gas Corporation (PUCN Docket No. 04-6001)
Northern Natural Gas Company (FERC Docket No. RP04-155-000)
Northern Indiana Public Service Company (IURC Cause No. 41338-GCA6)
Citizens Gas & Coke Utility (IURC Cause No. 37399-GCA84-S1)
Nicor Gas Company (ICC Docket No. 04-0779)
Heartland Gas Pipeline, LLC and Citizens Gas & Coke Utility (IURC Cause Nos. 42729 and 42730)
T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-00040059)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00050216)
Columbia Gas of Pennsylvania (PA PUC Docket No. R-00049783)
The Peoples Natural Gas Company (PA PUC Docket No. R-00050267)
Equitable Gas Company (PA PUC Docket No. R-00050272)
PECO Energy Company and Public Service Electric and Gas Company (PA PUC Docket No. A-110550F0160)
UGI Utilities, Inc. – Gas Division (PA PUC Docket No. R-00050539)
PPL Gas Utilities Corporation (PA PUC Docket No. R-00050540)
Northern Utilities, Inc. (Maine Public Utilities Docket No. 2005-87)
Southwest Gas Corporation (PUCN Docket No. 05-5015)
Northern Indiana Public Service Company (IURC Case No. 41338-GCA7)
2006-2010
Indiana Gas Company, Southern Indiana Gas and Electric and Citizens Gas & Coke Utility (IURC Cause No. 42973)

T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-00000051134)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-61246)
Cincinnati Gas & Electric Company (PUCO Case No. 05-218-GA-GCR)
The Peoples Natural Gas Company (PA PUC Docket No. R-00061301)
Equitable Gas Company (PA PUC Docket No. R-00061295)
Atmos Energy Corporation (LA PSC Docket No. U-27703)
UGI Utilities, Inc. -- Gas Division (PA PUC Docket No. R-00061502)
PPL Gas Utilities Corporation (PA PUC Docket No. R-00061519)
Equitable Resources Inc./The Peoples Natural Gas Company (PA PUC Docket No. A-122250F500)
Northern Indiana Public Service Company (Indiana Regulatory Utility Cause No. 41338-GCA8)
North Shore Gas Company/The Peoples Gas Light and Coke Company (ICC Docket Nos. 05-0748 and 05-0749)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-00072043)
Equitable Gas Company (PA PUC Docket No. R-00072111)
The Peoples Natural Gas Company (PA PUC Docket No. R-00072109)
UGI Utilities, Inc., Gas Utility Division (PA PUC Docket No. R-0072335)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-00072334)
North Shore Gas Company/The Peoples Gas Light and Coke Company (ICC Docket Nos. 07-0241 and 07-0242)
Providence Water Supply Board (RI PUC Docket No. 3832)
Dominion East Ohio Gas Company (Public Utility of Ohio Case No. 07-219-GA-GCR) November 2007.
Northern Indiana Public Service Company (Indiana Regulatory Utility Cause No. 41338-GCA9)
Aqua Pennsylvania, Inc. (PA PUC Docket No. R-00072711)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2008-2012502)
T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-2008-2013026)
Equitable Gas Company (PA PUC Docket No. R-2008-2021160)
UGI Utilities – Gas Division (PA PUC Docket No. R-2008-2039417)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2008-2039284)
North Shore Gas Company/The Peoples Gas Light and Coke Company (ICC Docket Nos. 06-0751 and 07-0311/06-752 and 07-0312)
Pawtucket Water Supply Board (PUCO Docket No. 3945)
Philadelphia Water Department (Philadelphia Water Commission FY 2009-2012 Rates)
Northern Indiana Public Service Company (IURC Cause No. 41338-GCA10)
Northern Indiana Public Service Company (IURC Case No. 41338-GCA11)
City of Newport (RI PUC)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2010-2150861)
T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-2009-2145441)
Northern Natural Gas Company (Federal Energy Regulatory Commission Docket No. RP10-148)
The Peoples Natural Gas Company (PA PUC Docket No. R-2010-2155608)
Equitable Gas Company (PA PUC Docket No. R-2010-2155613)
PECO Energy Company – Gas Division (PA PUC Docket No. R-2010-2161592)
UGI Utilities – Gas Division (PA PUC Docket No. R-2010-2172933)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2010-2172928)
UGI Central Penn Gas, Inc. (PA PUC Docket No. 2010-2172922)
T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-2010-2167797)
North Shore Gas Company/The Peoples Gas Light and Coke Company (ICC Docket Nos. 07-0576 and 07-0577)
Columbia Gas of Ohio, Inc. (PUCO Case No. 10-221-GA-GCR)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA16)
2011-2015
Peoples Natural Gas Company (PA PUC Docket No. R-2010-2201702)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. A-2010-221389)
UGI Central Penn Gas, Inc. (PA PUC Docket No. R-2010-2214415)
The Peoples Natural Gas Company (PA PUC Docket No. R-2011-2228694)
Equitable Gas Company (PA PUC Docket No. R-2011-2223563)
UGI Utilities – Gas Division (PA PUC Docket No. R-2011-2238953)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2011-2238943)
UGI Central Penn Gas, Inc. (PA PUC Docket No. 2011-2238949)
Northern Utilities, Inc. (ME PUC Docket No. 2011-92)
United Water Rhode Island, Inc. (RI PUC Docket No. 4255)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA20)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2012-2281465)
T.W. Phillips Gas & Oil Company (PA PUC Docket No. R-2011-2273539)
Philadelphia Gas Works (PA PUC Docket No. R-2012-2286447)
Cleco Power LLC (LA PSC Docket No. U-30955)
The Peoples Natural Gas Company (PA PUC Docket No. R-2012-2292082)
Equitable Gas Company (PA PUC Docket No. R-2012-2287044)
Peoples Natural Gas Company (PA PUC Docket No. R-2012-2285985)
PECO Energy Company (PA PUC Docket No. R-2012-2302784)
City of Woonsocket Water Division (RI PUC Docket No. 4320)

UGI Utilities, Inc. – Gas Division (PA PUC Docket No. R-2012-2302220)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2012-2302221)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2012-2314224); UGI Utilities, Inc. – Gas Division (PA PUC Docket No. R-2012-2314235); and UGI Central Penn Gas, Inc. (PA PUC Docket No. R-2012-2314247)
Duke Energy Ohio, Inc. (PUCO Case No. 12-218-GA-GCR)
City of Newport (RI PUC Docket No. 4355)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-24)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-25)
PECO Energy Company (PA PUC Docket No. R-2012-2328614)
Equitable Gas Company, LLC (PA PUC Docket No. R-2012-2333983)
Philadelphia Gas Works (PA PUC Docket No. R-2012-2333993)
Chesapeake Utilities Corporation (DE PSC Docket No. 12-450F)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2013-2341534)
Delmarva Power & Light Company (DE PSC Docket No. 12-419F)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-26)
Philadelphia Gas Works (PA PUC Docket No. R-2013-2346376)
Peoples Natural Gas, LLC (PA PUC Docket No. R-2013-2350914)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-27)
Peoples TWP, LLC (PA PUC Docket No. R-2013-2355886)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2013-2361763)
UGI Utilities – Gas Division (PA PUC Docket No. R-2013-2361771)
UGI Central Penn Gas, Inc. (PA PUC Docket No. R-2013-2361764)
Citizens Water (IURC Cause No. 44306)
Washington Gas Light Company (Public Service Commission of Maryland Case No. 9322)
CWA Authority, Inc. (IURC Cause No. 44305)
Providence Water Supply Board (RI PUC Docket No. 4406)
The York Water Company (PA PUC Docket No. R-2012-2336379)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-28)
Nicor Gas Company (ICC Docket No. 03-0703)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-29)
City of Michigan City, Indiana (IURC Cause No. 44538)
Delmarva Power & Light Company (DE PSC Docket No. 13-349F)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2014-2399610)
Atmos Energy Corporation (LA PSC Docket No. U-32987)

Peoples Natural Gas, LLC (PA PUC Docket No. R-2014-2403939)
Philadelphia Gas Works (PA PUC Docket No. R-2014-2404355)
Chesapeake Utilities Corporation (DE PSC Docket No. 13-351F)
Equitable Gas Company, LLC (PA PUC Docket No. R-2014-2403935)
Indiana American Water Company (IURC Cause No. 44450)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-30)
Indiana-American Water Company, Inc. (IURC Cause No. 44450)
Chattanooga Gas Company (TRA Docket No. 07-00224)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-31)
UGI Central Penn Gas, Inc. (PA PUC Docket No. R-2014-2420279)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2014-2420273)
UGI Utilities – Gas Division (PA PUC Docket No. R-2014-2420276)
Duke Energy Ohio (PUCO Case No. 14-841-EL-SSO)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-32)
Chesapeake Utilities Corporation (DE PSC Docket No. 13-383)
Chesapeake Utilities Corporation (DE PSC Docket No. 14-0299)
Delmarva Power & Light Company (DE PSC Docket No. 14-0295F)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-33)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2015-2461373)
Vectren Energy of Indiana (IURC Cause No. 37394-GCA-124S1)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-34)
Peoples Natural Gas, LLC and Peoples Natural Gas Company, LLC-Equitable Division (PA PUC Docket No. R-2015-2465172 and R-2015-2465181)
Philadelphia Gas Works (PA PUC Docket No. R-2015-2465656)
Delmarva Power & Light Company (DE PSC)
Columbia Gas of Pennsylvania (PA PUC, Docket No. R-2015-2468056)
Pawtucket Water Supply Board (RI PUC Docket No. 4550)
Questar Gas Company (UT PSC. Docket No. M-057-31)
UGI Central Penn Gas, Inc. (PA PUC Docket No. R-2015-2480937)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2015-2480934)
UGI Utilities – Gas Division (PA PUC Docket No. R-2015-2480950)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-35)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-36)
Citizens Water (IURC Cause No. 44644)

Duke Energy Ohio, Inc. (PUCO Case No. 15-218-GA-GCR)

2016-Present

Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-37)

Delmarva Power & Light Company (DE PSC Docket No. 15-1355)

Chesapeake Utilities Corporation (DE PSC Docket No. 15-1362)

CWA Authority, Inc. (IURC Cause No. 44685)

Philadelphia Water Department (Philadelphia Water Board, Fiscal Years 2017-2018 Rates)

National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2016-2521819)

Peoples TWP, LLC (PA PUC Docket No. R-2016-2528557)

Community Utilities of Indiana, Inc. (IURC Cause No. 44644)

City of Newport, Rhode Island (RI PUC Docket No. 4595)

Columbia Gas of Pennsylvania (PA PUC Docket No. P-2016-2521993)

Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-38)

Peoples and Equitable Divisions of the Peoples Natural Gas Company, LLC (PA PUC Docket No. R-2016-2528562 and R-2016-2529260)

UGI Central Penn Gas Inc. (PA PUC Docket No. R-2016-2543311)

UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2016-2543314)

UGI Utilities, Inc. (PA PUC Docket No. R-2016-2543309)

Eversource Energy (MA DPU Docket No. 15-181)

National Grid (MA DPU Docket No. 16-05)

Columbia Gas of Pennsylvania (PA PUC Docket No. R-2016-2529660)

UGI Central Penn Gas of Pennsylvania (PA PUC Docket No. P-2016-2537609)

UGI Penn Natural Gas, Inc. (PA PUC Docket No. P-2016-2537594)

Community Utilities of Pennsylvania Inc. Water Division (PA PUC Docket No. R-2016-2538660)

Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-39)

Chesapeake Utilities Corporation (DE PSC Docket No. 15-1734)

Kent County Water Authority (RI PUC Docket No. 4611)

Entergy Gulf States Louisiana, LLC (LA PSC Docket No. U-32245)

Providence Water Supply Board (RI PUC Docket No. 4618)

Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-40)

James Black Water Service Company, (PA PUC Docket No. R-2013-2395443)

Duquesne Light Company (PA PUC Docket No. P-2016-2540046)

Citizens' Electric Company of Lewisburg, PA & Wellsboro Electric Company (PA PUC Docket Nos. R-2016-2531550 & R-2016-2531551)

Delmarva Power & Light Company (DE PSC Docket No. 16-0889).

Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-41)
Chesapeake Utilities Corporation (DE PSC Docket No. 16-0908)
Entergy Gulf States Louisiana, LLC (LA PSC Docket No. U-34298)
CWA Authority, Inc. (IURC Cause No. 44685-S1)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2017-2582461)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-42)
Peoples TWP, LLC (PA PUC Docket No. R-2017-2587526)
Peoples TWP, LLC (PA PUC Docket No. R-2017-2586317)
Peoples Natural Gas Company, LLC – Peoples and Equitable Divisions (PA PUC Docket Nos. R-2017-2586310 and R-2017-2586318)
Philadelphia Gas Works (PA PUC Docket No. R-2017-2586783)
Fitchburg Gas and Electric Company d/b/a Unitil (MA DPU Docket No. 17-12)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-43)
Northern Utilities, Inc. (ME PUC Docket No. 2017-00065)
Questar Gas Company (UT PSC Docket No. 17-057-09)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-44)
Newton Artesian Water Company (PA PUC Docket No. R-2017-2624240)
CenterPoint Energy Arkansas Gas (AR PSC Docket No. 17-050-U)
Delmarva Power & Light Company (DE PSC Docket No. 17-1013)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-45)
Bay State Gas Company d/b/a Columbia Gas of Massachusetts (MA DPU Docket No. 17-166)
Chesapeake Utilities Corporation (DE PSC Docket No. 17-1021)
National Fuel Gas Distribution Corporation (PA PUC Docket No. R-2018-2641577)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-46)
UGI Utilities, Inc. – Electric Division (PA PUC Docket No. R-2017-2640058)
Peoples Gas Company, LLC (PA PUC Docket No. R-2018-2645296)
Peoples Gas Company, LLC – Peoples and Equitable Divisions (PA PUC Docket Nos. R-2018-2645278 and R-2018-3000236)
UGI Central Penn Gas, Inc. (PA PUC Docket No. R-2018-3001631)
UGI Utilities, Inc. (PA PUC Docket No. R-2018-3001633)
UGI Penn Natural Gas, Inc. (PA PUC Docket No. R-2018-3001632)
Suez Water Rhode Island, Inc. (RI PUC Docket No. 4800)

Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-47)
UGI Utilities, Inc.; UGI Central Penn Gas, Inc.; and UGI Penn Natural Gas, Inc. (PA PUC Docket Nos. A-2018-3000381, A-2018-3000382, and A-2018-3000383)
Suez Water Pennsylvania, Inc. (PA PUC Docket No. R-2018-3000834)
The York Water Company (PA PUC Docket No. R-2018-3000019)
Washington Gas Light Company (MD PSC Case No. 9481)
Town of Chandler (IURC Cause No. 45062)
Maryland-American Water Company (MD PSC Case No. 9481)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-48)
Indiana-American Water Company, Inc. (IURC Cause No. 45152)
Liberty Utilities (New England Gas Company) d/b/a/Liberty Utilities
(MA DPU Docket No. 18-68)
Northern Indiana Public Service Company (IURC Cause No. 43629-GCA-49)
CWA Authority, Inc. (IURC Cause No. 45151)
City of Woonsocket Water Division (RI PUC Docket No. 4879)
CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas
(AR PSC Docket No. 18-057-U)

CHRISTINA R. MUDD

Ms. Mudd is a Principal and Vice President at Exeter Associates, Inc. with 20 years of experience in the energy industry. 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.

Education

M.A. (International Affairs: Concentration in Energy Policy and Economics) – Johns Hopkins University, Paul H. Nitze School of Advanced International Studies, 1998

B.S. (Political Science and Biology) – James Madison University, Harrisonburg, VA 1992

Previous Employment

2000-2004 Assistant Director/Policy Analyst
Maryland Energy Administration
Annapolis, MD

1998-2000 Senior Associate
PHB Hagler Bailly, Inc.
Arlington, VA

1997-1998 Associate (part-time)
Louis Berger International, Inc.
Washington, D.C.

1992-1996 Program Manager
Maryland International Center (now World Trade Center Institute)
Baltimore, MD

Professional Work Experience

Ms. Mudd's work at Exeter includes the analysis of energy markets and prices, contracts for the supply of electricity and natural gas, utility rates, and federal and state energy regulations. Ms. Mudd manages Exeter's contracts with the U.S. Department of Energy Bay Area Site Office, the Defense Logistics Agency-Energy Division, the U.S. Air Force Utility Rates Management Team, and the U.S. Army Commercial Utilities Program. Ms. Mudd is regarded as a leading expert in utility rates and regulations for the federal government. She also has experience with the analysis of energy conservation and efficiency and has authored numerous reports and research papers at

the request of state and federal clients, and participates as an expert witness in proceedings specific to the development of energy efficiency, demand response, and advanced meter programs.

She evaluates energy supply options, conducting detailed assessments and reviews of energy supply contracts and procurement strategies for U.S. government facilities. Ms. Mudd has reviewed the utility service and contract agreements identifying tens of millions in savings attributed to utility billing errors and improved procurement and supply strategies. She has authored and overseen the production of more than 75 report detailing the utility costs and regulatory consideration of federal facilities and has experience in evaluating electricity and natural gas markets in nearly every state and regional transmission organization.

Ms. Mudd also serves as the point person for Exeter's work before state public utility commissions for the Army Regulatory Law Office. She leads Exeter's intervention efforts on behalf of the Army and directs the overall strategy in the case, working with each of the expert witnesses to ensure a well-coordinated effort.

Ms. Mudd performs research and analysis for the design, implementation, and evaluation of renewable energy policies and related to the integration of renewable energy technologies on the grid, and on the development and implementation of transmission policies.

Under a contract between Exeter and the National Association of Regulatory Utility Commissioners (NARUC), Ms. Mudd served as the Executive Director for the National Council on Electricity Policy, a joint venture between the NARUC, the National Association of State Energy Officials (NASEO), the National Conference of State Legislatures (NCSL), the 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 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.

At the Maryland Energy Administration (MEA), Ms. Mudd advised the Director and the Governor's Office on policy issues concerning energy efficiency, renewable energy, and strategies for the reduction of greenhouse gas emissions. 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. 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, Inc., 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 India, Southeast Asia, and Latin America.

At Louis Berger International, Inc., 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 (now World Trade Center Institute) in Baltimore, MD. 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

“Congestion Analysis: Palo Verde – South Path 15,” prepared for the Western Area Power Administration – Desert Southwest (Phoenix, AZ) December 2012

“Meeting Renewable Energy Targets in the West at Least Cost: The Integration Challenge,” Chapter 9, *Focus on Flexibility for New Generating Plants*, prepared for the Western Governor's Association, June 2012.

“2011 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 2012 (with contributing authors from BCS, Inc.)

“Long-Term Electricity Report for Maryland,” prepared for the Power Plant Research Program, Maryland Department of Natural Resources, December 2011 (with Steven Estomin, Sari Fink, 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 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).
- “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 Docket No. M-2012-2333992, PECO Energy Company Approval of its Act 129 Phase II Energy Efficiency and Conservation Plan, December 2012, for the Pennsylvania Office of Consumer Advocate. Testified regarding proposed energy efficiency programs, proposed costs and policy issues. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utility Commission Docket No. M-2009-2123948, Duquesne Light Company Approval of its Final Smart Meter Technology Procurement and Installation Plan, October 2012, for the Pennsylvania Office of Consumer Advocate. Testified regarding the costs and benefits of smart grid plans and technology selection. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utility Commission Docket No. R-2010-2214415, UGI Central Penn Gas, Inc. 2011 Base Rate Proceeding, (Pennsylvania Public Utility Commission Docket No), May 2011, for the Pennsylvania Office of Consumer Advocate. Testified regarding proposed energy efficiency programs, proposed costs and policy issues. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utility Commission Docket No. M-2009-2123945, Pennsylvania Power and Light Approval of its Smart Meter Technology Procurement and Installation Plan, October 2009, for the Pennsylvania Office of Consumer Advocate. Testified regarding the costs and benefits of smart grid plans and technology selection. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utility Commission Docket No. M-2009-2123948, Duquesne Light Company for Approval of its Smart Meter Technology Procurement and Installation Plan, October 2009, for the Pennsylvania Office of Consumer Advocate. Testified regarding the costs and benefits of smart grid plans and technology selection.

STACY L. SHERWOOD

Ms. Sherwood is an Economist at Exeter Associates, Inc. At Exeter, Ms. Sherwood develops utility service assessments, provides bill and rate analysis, and assesses and evaluates the effectiveness of energy conservation and efficiency programs and smart meter implementation plans. She also conducts analysis on renewable energy initiatives and life-cycle cost analysis of renewable energy projects. Prior to joining Exeter, Ms. Sherwood worked on energy efficiency with the State of Maryland.

Education

B.A. (Economics, Business, and Accounting) – McDaniel College, 2009

Previous Employment

2013-2015	Assistant Director Maryland Public Service Commission Baltimore, Maryland
2011-2013	Regulatory Economist II Maryland Public Service Commission Baltimore, Maryland
2009-2011	Regulatory Economist I Maryland Public Service Commission Baltimore, Maryland

Professional Experience

Ms. Sherwood's work at Exeter is primarily related to energy efficiency, renewable energy, automated metering infrastructure, cost recovery, and revenue requirements. Ms. Sherwood has successfully worked with utilities, state energy offices, attorney general's offices, consumer advocates, and commission staffs. Ms. Sherwood provides ongoing support to the Arkansas Office of the Attorney General and the Pennsylvania Office of Consumer Advocates regarding their respective states' utility energy efficiency programs, including analysis of utility energy efficiency plans and proposed plan amendments; analysis of issues raised during stakeholder meetings; review of riders and surcharges related to cost-recovery; and provide recommendations on technical and policy-related matters. She has contributed to several publications issued by the Maryland Power Plant Research Program regarding electricity in Maryland, including load forecasting, analysis of policy impacts, and inclusion of renewable resources. Additionally, Ms. Sherwood has worked with the Department of Defense to study the demand response potential at various Army Garrisons throughout the United States by conducting on-site visits and performing analysis of electric bills.

At the Maryland Public Service Commission, Ms. Sherwood performed analysis on the EmPOWER Maryland energy efficiency and demand response programs, the Exelon Customer Investment Fund, and served as lead analyst for the EmPOWER Maryland limited income programs implemented by the Maryland Department of Housing and Community Development. For those initiatives, she developed reporting templates and guidelines; oversaw evaluation, measurement, and verification of program results; and recommended and ensured compliance with policies. Additionally, Ms. Sherwood assisted with the development of regulations proposed before the Commission to implement the 2013 Maryland Offshore Wind Energy Act.

Publications and Consulting Reports

Fort Riley Assessment of Utility Contracts and Costs, on behalf of the U.S. Army Installation Management Command and Army Commercial Utilities Program, April 2019 (with Steven Estomin of Exeter Associates, Inc.).

Sierra Army Depot Assessment of Utility Contracts and Costs, on behalf of the U.S. Army Installation Management Command and Army Commercial Utilities Program, March 2019 (with Steven Estomin of Exeter Associates, Inc.).

Fort Riley Assessment of Demand Response Opportunities, on behalf of the U.S. Army Office Chief of Staff for Installation Management, January 2018 (with Christina Mudd of Exeter Associates, Inc. and Jim Clark of Clark Energy, Inc.).

Fort Gordon Assessment of Demand Response Opportunities, on behalf of the U.S. Army Office Chief of Staff for Installation Management, June 2017 (with Christina Mudd of Exeter Associates, Inc. and Jim Clark of Clark Energy, Inc.).

Cumulative Environmental Impact Report, on behalf of the Power Plant Research Program, Maryland Department of Natural Resources, December 2016 (with Steven Estomin, Kevin Porter, Rebecca Widiss, and Nicholas DiSanti of Exeter Associates, Inc.; Environmental Resources Management, Inc.; Versar, Inc.; Metametrics, Inc.; Spectrum Environmental Services, Inc.; and RGM Incorporated).

Long-Term Electricity Report for Maryland, on behalf of the Power Plant Research Program, Maryland Department of Natural Resources, December 2016 (with Steven Estomin, Kevin Porter, Rebecca Widiss, Nicholas DiSanti, Cali Clark, and Laura Miller of Exeter Associates, Inc.).

Fort Stewart Assessment of Demand Response Opportunities, on behalf of the U.S. Army Office Chief of Staff for Installation Management, September 2016 (with Christina Mudd and Felipe Salcedo of Exeter Associates, Inc. and Jim Clark of Clark Energy, Inc.).

Edwards Air Force Base Feasibility of a Geothermal Project, on behalf of the U.S. Air Force Civil Engineer Center, April 2016 (with Christina Mudd and Kevin Porter of Exeter Associates, Inc.).

Expert Testimony

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3010955
Pennsylvania Public Utility Commission v. City of Lancaster – Sewer Fund, October 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3008208
Pennsylvania Public Utility Commission v. Wellsboro Electric Company, October 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3008209
Pennsylvania Public Utility Commission v. Valley Energy, Inc., October 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3008212,
Pennsylvania Public Utility Commission v. Citizens' Electric Company of Lewisburg, PA, October 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3009559,
Pennsylvania Public Utility Commission v. Eaton Sewer & Water Company, Inc. – Wastewater Division, August 2019, for the Pennsylvania Office of Consumer Advocate. Participate in mediation regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3009567,
Pennsylvania Public Utility Commission v. Eaton Sewer & Water Company, Inc. – Water Division, August 2019, for the Pennsylvania Office of Consumer Advocate. Participate in mediation regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3008947,
Pennsylvania Public Utility Commission v. Community Utilities of Pennsylvania Inc. Water Division, July 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase. (Case settled prior to cross-examination.)

Edwards Air Force Base Feasibility of a Geothermal Project, on behalf of the U.S. Air Force Civil Engineer Center, April 2016 (with Christina Mudd and Kevin Porter of Exeter Associates, Inc.).

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Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3010955
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Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3009559,
Pennsylvania Public Utility Commission v. Eaton Sewer & Water Company, Inc. – Wastewater Division, August 2019, for the Pennsylvania Office of Consumer Advocate. Participate in mediation regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3009567,
Pennsylvania Public Utility Commission v. Eaton Sewer & Water Company, Inc. – Water Division, August 2019, for the Pennsylvania Office of Consumer Advocate. Participate in mediation regarding reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3008947,
Pennsylvania Public Utility Commission v. Community Utilities of Pennsylvania Inc. Water Division, July 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3008948, *Pennsylvania Public Utility Commission v. Community Utilities of Pennsylvania Inc. Wastewater Division*, July 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utilities Commission, Docket No. R-2019-3006904, *Pennsylvania Public Utility Commission v. The Newtown Artesian Water Company (Supplement No. 136 to Tariff Water – Pa. P.U.C. No. 9)*, March 2019, for the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the overall revenue increase. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utilities Commission, Docket No. R-2018-3006814, *Pennsylvania Public Utility Commission v. UGI Utilities, Inc – Gas Division (Utility Code 123100, Filed Tariff Gas- Pa. P.U.C. Nos. 7 and 7S)*, January 2019, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of its proposed consolidated natural gas energy efficiency plan. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utilities Commission, Docket No. M-2018-3004144, *Petition of UGI Utilities, Inc. – Electric Division for Approval of Phase III of its Energy Efficiency and Conservation Plan*, August 2018, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of proposed Plan. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utilities Commission, Docket No. R-2018-3001307, *Pennsylvania Public Utility Commission v. Hidden Valley Utility Services, L.P. – Wastewater (General Rate Increase Filed Pursuant to 66 PS. CS 1308, Including Answers to 52 PA. Code 53.52)*, April 2018, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding the reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. R-2018-3001306, *Pennsylvania Public Utility Commission v. Hidden Valley Utility Services, L.P. – Water (General Rate Increase Filed Pursuant to 66 PS. CS 1308, Including Answers to 52 PA. Code 53.52)*, April 2018, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding the reasonableness of the overall revenue increase.

Before the Pennsylvania Public Utilities Commission, Docket No. P-2015-2497267, *Petition of Duquesne Light Company for Approval of its Smart Meter Procurement and Installation Plan*, February 2016, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding the inclusion of additional costs related to the Plan's implementation.

Before the Pennsylvania Public Utilities Commission, Docket No. M-2015-2477174, *Petition of UGI Utilities, Inc. – Electric Division for Approval of Phase II of its Energy Efficiency and Conservation Plan*, February 2016, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of proposed Plan. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utilities Commission, Docket No. M-2015-2515642, *Petition of PPL Electric Utilities for Approval of its Energy Efficiency and Conservation Phase II Plan*, January 2016, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the proposed Plan and its compliance with Pennsylvania Act 129. (Case settled prior to cross-examination.)

Before the Pennsylvania Public Utilities Commission, Docket No. M-2015-2515375, *Petition of Duquesne Light Company for Approval of its Energy Efficiency and Conservation Phase II Plan*, January 2016, on behalf of the Pennsylvania Office of Consumer Advocate. Testified regarding reasonableness of the proposed Plan and its compliance with Pennsylvania Act 129. (Case settled prior to cross-examination.)

Before the Public Utilities Commission of Rhode Island, Docket No. 4595, *Newport Water Division – Rate Application to Collect Additional Revenues of \$1,304,595 for a Total Cost of Service of \$20,151,440*, December 2015, on behalf of the Division of Public Utilities and Carriers. Testified regarding reasonableness of the overall rate revenue increase.

Before the Maryland Public Service Commission, Case No. 9311, *In the Matter of the Application of Potomac Electric Power Company for an Increase in its Retail Rates For the Distribution of Electric Energy*, April 2013, on behalf of the Maryland Public Service Commission Staff. Testified regarding the inclusion of advanced metering infrastructure meters and energy advisor and engineer positions in rates.