

APPENDIX A

PROFESSIONAL QUALIFICATIONS

OF

PAULINE M. AHERN, CRRA  
PRINCIPAL

AUS CONSULTANTS

**PROFESSIONAL QUALIFICATIONS  
OF  
PAULINE M. AHERN, CRRA  
PRINCIPAL  
AUS CONSULTANTS**

PROFESSIONAL EXPERIENCE

1994-Present

In 1996, I became a Principal of AUS Consultants, continuing to offer testimony as an expert witness on the subjects of fair rate of return, cost of capital and related issues before state public utility commissions. I provide assistance and support to clients throughout the entire ratemaking litigation process. In addition, I supervise the financial analyst and administrative staff in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assists in the preparation of interrogatory responses, as well as rebuttal exhibits.

As the Publisher of AUS Utility Reports (formerly C. A. Turner Utility Reports), I am responsible for the production, publishing, and distribution of the reports. AUS Utility Reports provides financial data and related ratios for about 120 public utilities, i.e., electric, combination gas and electric, natural gas distribution, natural gas transmission, telephone, and water utilities, on a monthly, quarterly and annual basis. Among the subscribers of AUS Utility Reports are utilities, many state regulatory commissions, federal agencies, individuals, brokerage firms, attorneys, as well as public and academic libraries. The publication has continuously provided financial statistics on the utility industry since 1930.

As the Publisher of AUS Utility Reports, I also supervise the production, publishing, and distribution of the AGA Rate Service publications under license from the American Gas Association. I am also responsible for maintaining and calculating the performance of the AGA Index, a market capitalization weighted index of the common stocks of the approximately 70 corporate members of the AGA, which serves as the benchmark for the AGA Gas Utility Index Fund.

As an Assistant Vice President from 1994 - 1996, I prepared fair rate of return and cost of capital exhibits which were filed along with expert testimony before various state and federal public utility regulatory bodies. These supporting exhibits include the determination of an appropriate ratemaking capital structure and the development of embedded cost rates of senior capital. The exhibits also support the determination of a recommended return on common equity through the use of various market models, such as, but not limited to, Discounted Cash Flow analysis, Capital Asset Pricing Model and Risk Premium Methodology, as well as an assessment of the risk characteristics of the client utility. I also assisted in the preparation of responses to any interrogatories received regarding such testimonies filed on behalf of client utilities. Following the filing of fair rate of return testimonies, I assisted in the evaluation of opposition testimony in order to prepare interrogatory questions, areas of cross-examination, and rebuttal testimony. I also evaluated and assisted in the preparation of briefs and exceptions following the hearing process. I also submitted testimony before state public utility commissions regarding appropriate capital structure ratios and fixed capital cost rates.

1990-1994

As a Senior Financial Analyst, I supervised two analysts and assisted in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assisted in the preparation of interrogatory responses.

I evaluated the final orders and decisions of various commissions to determine whether further actions were warranted and to gain insight which assisted in the preparation of future rate of return studies.

I assisted in the preparation of an article authored by Frank J. Hanley and A. Gerald Harris entitled "Does Diversification Increase the Cost of Equity Capital?" published in the July 15, 1991 issue of

## Public Utilities Fortnightly.

In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the National Society of Rate of Return Analysts (now the Society of Utility and Regulatory Financial Analysts (SURFA)). This designation is based upon education, experience and the successful completion of a comprehensive examination.

As Administrator of Financial Analysis for AUS Utility Reports, which then reported financial data for over 200 utility companies with approximately 1,000 subscribers, I oversaw the preparation of this monthly publication, as well as the accompanying annual publication, Financial Statistics - Public Utilities.

## 1988-1990

As a Financial Analyst, I assisted in the preparation of fair rate of return studies including capital structure determination, development of senior capital cost rates, as well as the determination of an appropriate rate of return on equity. I also assisted in the preparation of interrogatory responses, interrogatory questions of the opposition, areas of cross-examination and rebuttal testimony. I also assisted in the preparation of the annual publication C. A. Turner Utility Reports - Financial Statistics - Public Utilities.

## 1973-1975

As a Research Assistant in the Research Department of the Regional Economics Division of the Federal Reserve Bank of Boston, I was involved in the development and maintenance of econometric models to simulate regional economic conditions in New England in order to study the effects of, among other things, the energy crisis of the early 1970's and property tax revaluations on the economy of New England. I was also involved in the statistical analysis and preparation of articles for the New England Economic Review. Also, I was Assistant Editor of New England Business Indicators.

## 1972

As a Research Assistant in the Office of the Assistant Secretary for International Affairs, U.S. Treasury Department, Washington, D.C., I developed and maintained econometric models which simulated the economy of the United States in order to study the results of various alternate foreign trade policies so that national trade policy could be formulated and recommended.

## Clients Served

I have offered expert testimony before the following commissions:

Arkansas	Maine
Arizona	Maryland
British Columbia	Michigan
California	Missouri
Canada	Nevada
Connecticut	New Jersey
Delaware	New York
Florida	North Carolina
Hawaii	Ohio
Idaho	Pennsylvania
Illinois	Rhode Island
Indiana	South Carolina
Iowa	Virginia
Kentucky	Washington
Louisiana	

I have sponsored testimony on fair rate of return and related issues for:

Alpena Power Company	Pinelands Waste Water Company
Apple Canyon Utility Company	Pittsburgh Thermal
Applied Wastewater Management, Inc.	San Gabriel Valley Water Company
Aqua Illinois, Inc.	San Jose Water Company
Aqua New Jersey, Inc.	Southland Utilities, Inc.
Aqua North Carolina, Inc.	Spring Creek Utilities, Inc.
Aqua Ohio, Inc.	Sussex Shores Water Company
Aqua Virginia, Inc.	Tega Cay Water Services, Inc.
Aquarion Water Company	Total Environmental Services, Inc. –
Arizona Water Company	Treasure Lake Water & Sewer Divisions
Artesian Water Company	Thames Water Americas
Bermuda Water Company	Tidewater Utilities, Inc.
The Atlantic City Sewerage Company	Transylvania Utilities, Inc.
Audubon Water Company	Trigen – Philadelphia Energy Corporation
The Borough of Hanover, PA	Twin Lakes Utilities, Inc.
Carolina Pines Utilities, Inc.	United Utility Companies
Carolina Water Service, Inc. of NC	United Water Arkansas, Inc.
Carolina Water Service, Inc. of SC	United Water Arlington Hills Sewerage, Inc.
The Columbia Water Company	United Water Connecticut, Inc.
The Connecticut Water Company	United Water Delaware, Inc.
Consumers Illinois Water Company	United Water Great Gorge Inc. / United Water
Consumers Maine Water Company	Vernon Transmission, Inc.
Consumers New Jersey Water Company	United Water Idaho, Inc.
City of DuBois, Pennsylvania	United Water Indiana, Inc.
Elizabethtown Water Company	United Water New Jersey, Inc.
Emporium Water Company	United Water New Rochelle, Inc.
GTE Hawaiian Telephone Inc.	United Water New York, Inc.
Greenridge Utilities, Inc.	United Water Owego / Nichols, Inc.
Illinois American Water Company	United Water Pennsylvania, Inc.
Iowa American Water Company	United Water Rhode Island, Inc.
Jersey Central Power & Light Co.	United Water South County, Inc.
Water Services Corp. of Kentucky	United Water Toms River, Inc.
Lake Wildwood Utilities Corp.	United Water Vernon Sewage Inc.
Land'Or Utility Company	United Water Virginia, Inc.
Long Island American Water Company	United Water Westchester, Inc.
Long Neck Water Company	United Water West Lafayette, Inc.
Louisiana Water Service, Inc.	United Water West Milford, Inc.
Massanutten Public Service Company	Utilities, Inc.
Middlesex Water Company	Utilities Inc. of Central Nevada
Missouri-American Water Company	Utilities, Inc. of Florida
Mt. Holly Water Company	Utilities, Inc. of Louisiana
Nero Utility Services, Inc.	Utilities, Inc. of Nevada
New Jersey Utilities Association	Utilities, Inc. of Pennsylvania
The Newtown Artesian Water Company	Utilities, Inc. - Westgate
NRG Energy Center Pittsburgh LLC	Utilities Services of South Carolina
NRG Energy Center Harrisburg LLC	Utility Center, Inc.
Ohio-American Water Company	Valley Energy, Inc.
Penn Estates Utilities	Wellsboro Electric Company
Pinelands Water Company	Western Utilities, Inc.

I have sponsored testimony on generic/uniform methodologies for determining the return on common equity for:

Aquarion Water Company	United Water Connecticut, Inc.
The Connecticut Water Company	Utilities, Inc.
Corix Multi-Utility Services, Inc.	

I have sponsored testimony on the rate of return and capital structure effects of merger and acquisition issues for:

California-American Water Company

New Jersey-American Water Company

I have sponsored testimony on capital structure and senior capital cost rates for the following clients:

Alpena Power Company  
Arkansas-Western Gas Company  
Associated Natural Gas Company

PG Energy Inc.  
United Water Delaware, Inc.  
Washington Natural Gas Company

I have sponsored testimony on Distribution System Improvement Charges (DSIC):

Arizona Water Company

I have assisted in the preparation of rate of return studies on behalf of the following clients:

Algonquin Gas Transmission Company  
Anadarko Petroleum Corporation  
Arizona Water Company  
Arkansas-Louisiana Gas Company  
Arkansas Western Gas Company  
Artesian Water Company  
Associated Natural Gas Company  
Atlantic City Electric Company  
Bridgeport-Hydraulic Company  
Cambridge Electric Light Company  
Carolina Power & Light Company  
Citizens Gas and Coke Utility  
City of Vernon, CA  
Columbia Gas/Gulf Transmission Cos.  
Commonwealth Electric Company  
Commonwealth Telephone Company  
Conestoga Telephone & Telegraph Co.  
Connecticut Natural Gas Corporation  
Consolidated Gas Transmission Company  
Consumers Power Company  
CWS Systems, Inc.  
Delmarva Power & Light Company  
East Honolulu Community Services, Inc.  
Equitable Gas Company  
Equitrans, Inc.  
Florida Power & Light Company  
Gary Hobart Water Company  
Gasco, Inc.  
GTE Arkansas, Inc.  
GTE California, Inc.  
GTE Florida, Inc.  
GTE Hawaiian Telephone  
GTE North, Inc.  
GTE Northwest, Inc.  
GTE Southwest, Inc.  
Great Lakes Gas Transmission L.P.  
Hawaiian Electric Company  
Hawaiian Electric Light Company  
IES Utilities Inc.  
Illinois Power Company

Interstate Power Company  
Interstate Power & Light Co.  
Iowa Electric Light and Power Company  
Iowa Southern Utilities Company  
Kentucky-West Virginia Gas Company  
Lockhart Power Company  
Middlesex Water Company  
Milwaukee Metropolitan Sewer District  
Mountaineer Gas Company  
National Fuel Gas Distribution Corp.  
National Fuel Gas Supply Corp.  
Newco Waste Systems of NJ, Inc.  
New Jersey Natural Gas Company  
New Jersey-American Water Company  
New York-American Water Company  
North Carolina Natural Gas Corp.  
Northumbrian Water Company  
Ohio-American Water Company  
Oklahoma Natural Gas Company  
Orange and Rockland Utilities  
Paiute Pipeline Company  
PECO Energy Company  
Penn Estates Utilities, Inc.  
Penn-York Energy Corporation  
Pennsylvania-American Water Co.  
PG Energy Inc.  
Philadelphia Electric Company  
Providence Gas Company  
South Carolina Pipeline Company  
Southwest Gas Corporation  
Stamford Water Company  
Tesoro Alaska Petroleum Company  
Tesoro Refining & Marketing Co.  
United Telephone of New Jersey  
United Utility Companies  
United Water Arkansas, Inc.  
United Water Delaware, Inc.  
United Water Idaho, Inc.  
United Water Indiana, Inc.  
United Water New Jersey, Inc.

## Rate of Return Clients Continued

United Water New York, Inc.  
United Water Pennsylvania, Inc.  
United Water Virginia, Inc.  
United Water West Lafayette, Inc.  
Utilities, Inc. of Pennsylvania  
Utilities, Inc. - Westgate  
Vista-United Telecommunications Corp.  
Washington Gas Light Company

Washington Natural Gas Company  
Washington Water Power Corporation  
Waste Management of New Jersey –  
Transfer Station A  
Wellsboro Electric Company  
Western Reserve Telephone Company  
Western Utilities, Inc.  
Wisconsin Power and Light Company

## EDUCATION:

1973 – Clark University – B.A. – Honors in Economics (Concentration: Econometrics and Regional/International Economics)  
1991 – Rutgers University – M.B.A. – High Honors (Concentration: Corporate Finance)

## PROFESSIONAL AFFILIATIONS:

Advisory Board – Financial Research Institute – University of Missouri  
Edison Electric Institute – Cost of Capital Working Group  
National Association of Water Companies – Member of the Finance/Accounting/Taxation and Rates and Regulation Committees  
Society of Utility and Regulatory Financial Analysts  
Member, Board of Directors – 2010-2014  
President – 2006-2008 and 2008-2010  
Secretary/Treasurer – 2004-2006  
American Finance Association  
Financial Management Association  
Energy Bar Association  
Energy Association of Pennsylvania

## SPEAKING ENGAGEMENTS:

“Issues Surrounding the Determination of the Allowed Rate of Return”, before the Staff Subcommittee on Electricity of the National Association of Regulatory Utility Commissioners, Winter 2013 Committee Meetings, February 3, 2013, Washington, DC.

“Leadership in the Financial Services Sector”, Guest Professor – Cost of Capital, Business Leader Development Program, Rutgers University School of Business, February 1, 2013, Camden, NJ.

“Analyst Training in the Power and Gas Sectors”, SNL Center for Financial Education, Downtown Conference Center at Pace University, New York City, December 12, 2012, Instructor (Financial Statement Analysis).

“Regulatory Training in Financing Planning, Strategies and Accounting Issues for Publicly and Privately Owned Water and Wastewater Utilities”, New Mexico State University Center for Public Utilities, October 14-19, 2012, Instructor (Cost of Financial Capital).

“Application of a New Risk Premium Model for Estimating the Cost of Common Equity”, Co-Presenter with Dylan W. D’Ascendis, CRRA, AUS Consultants, Edison Electric Institute Cost of Capital Working Group, October 3, 2012, Webinar.

“Application of a New Risk Premium Model for Estimating the Cost of Common Equity”, Co-Presenter with Dylan W. D’Ascendis, CRRA, AUS Consultants, Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Commissioners, September 10, 2012, St. Paul, MN.

“Analyst Training in the Power and Gas Sectors”, SNL Center for Financial Education, Downtown Conference Center at Pace University, New York City, August 7, 2012, Instructor (Financial Statement Analysis).

“Advanced Regulatory Training in Financing Planning, Strategies and Accounting Issues for Publicly and Privately Owned Water and Wastewater Utilities”, New Mexico State University Center for Public Utilities, May 13-17, 2012, Instructor (Cost of Financial Capital).

“A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities”, before the Finance and Regulatory Committees of the National Association of Water Companies, March 29, 2012, Telephonic Conference.

“A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities”, (co-presenter with Frank J. Hanley, Principal and Director, AUS Consultants) before the Water Committee of the National Association of Regulatory Utility Commissioners’ Winter Committee Meetings, February 7, 2012, Washington, DC.

“A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities”, (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University and Frank J. Hanley, Principal and Director, AUS Consultants) before the Wall Street Utility Group, December 19, 2011, New York City, NY.

“Advanced Cost and Finance Issues for Water”, (co-presenter with Gary D. Shambaugh, Principal & Director, AUS Consultants), 2011 Advanced Regulatory Studies Program – Ratemaking, Accounting and Economics, September 29, 2011, Kellogg Center at Michigan State University – Institute for Public Utilities, East Lansing, MI.

“Public Utility Betas and the Cost of Capital”, (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 30<sup>th</sup> Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2011, Rutgers University, Skytop, PA.

Moderator: Society of Utility and Regulatory Financial Analysts: 43<sup>rd</sup> Financial Forum – “Impact of Cost Recovery Mechanisms on the Perception of Public Utility Risk”, April 14-15, 2011, Washington, DC.

“A New Approach for Estimating the Equity Risk Premium for Public Utilities”, (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Hot Topic Hotline Webinar, December 3, 2010, Financial Research Institute of the University of Missouri.

“A New Approach for Estimating the Equity Risk Premium for Public Utilities”, (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) before the Indiana Utility Regulatory Commission Cost of Capital Task Force, September 28, 2010, Indianapolis, IN

Tomorrow’s Cost of Capital: Cost of Capital Issues 2010, Deloitte Center for Energy Solutions, 2010 Deloitte Energy Conference, “Changing the Great Game: Climate, Customers and Capital”, June 7-8, 2010, Washington, DC.

“A New Approach for Estimating the Equity Risk Premium for Public Utilities”, (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 29<sup>th</sup> Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2010, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 42<sup>nd</sup> Financial Forum – “The Changing Economic and Capital Market Environment and the Utility Industry”, April 29-30, 2010, Washington, DC

“A New Model for Estimating the Equity Risk Premium for Public Utilities” (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Spring 2010 Meeting of the Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Utility Commissioners, March 17, 2010, Charleston, SC

“New Approach to Estimating the Cost of Common Equity Capital for Public Utilities” (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) - Advanced Workshop in Regulation and Competition, 28<sup>th</sup> Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 14, 2009, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 41<sup>st</sup> Financial Forum – “Estimating the Cost of Capital in Today’s Economic and Capital Market Environment”, April 16-17, 2009, Washington, DC

“Water Utility Financing: Where Does All That Cash Come From?”, AWWA Pre-Conference Workshop: Water Utility Ratemaking, March 25, 2008, Atlantic City, NJ

PAPERS:

“Comparative Evaluation of the Predictive Risk Premium<sup>TM</sup>, the Discounted Cash Flow Model and the Capital Asset Pricing Model”, co-authored with Dylan W. D’Ascendis, Frank J. Hanley and Richard A. Michelfelder, Ph.D., Rutgers University, AUS Consultants Working Paper, January 2013.

“A New Approach for Estimating the Equity Risk Premium for Public Utilities”, co-authored with Frank J. Hanley and Richard A. Michelfelder, Ph.D., Rutgers University, The Journal of Regulatory Economics (December 2011), 40:261-278.

“Comparable Earnings: New Life for an Old Precept” co-authored with Frank J. Hanley, Financial Quarterly Review, (American Gas Association), Summer 1994.

Aquarion Water Company of New Hampshire, Inc.  
Mr. Parcell's Corrected Common Equity Cost Rate  
Using the Discounted Cash Flow Model and  
Security Analysts' Forecasts of Earnings Per Share Growth

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<u>Mr. Parcell's Value Line Water Group</u>	Average Dividend Yield (1)	Est'd '09-'11 to '15-'17 Growth Rates (2)	First Call EPS Growth (3)	Average Projected Five Year Growth in EPS (4)	Adjusted Dividend Yield (5)	Indicated Common Equity Cost Rate (6)
American States Water Co.	3.20 %	5.50 %	4.00 %	4.75 %	3.28 %	8.03 %
American Water Works	2.70	8.00	8.50	8.25	2.81	11.06
Aqua America, Inc.	2.80	7.00	7.30	7.15	2.90	10.05
Artesian Resources Corp.	3.70	NA	4.00	4.00	3.77	7.77
California Water Service Group	3.50	6.00	5.00	5.50	3.60	9.10
Connecticut Water Service, Inc.	3.20	NA	6.10	6.10	3.30	9.40
Middlesex Water	4.10	7.00	2.70	7.00	4.24	11.24
SJW Corporation	2.90	6.50	14.00	10.25	3.05	13.30
York Water Company	3.10	NA	4.90	4.90	3.18	8.08
Average						<u>9.78 %</u> <u>9.54 %</u>
Median						<u>9.40 %</u> <u>9.10 %</u>
						Indicated Range of DCF Derived Cost Rate (7) <u>9.59% - 9.78%</u> <u>9.32% - 9.54%</u>
						Midpoint <u>9.69%</u> <u>9.43%</u>

NA= Not Available

Notes:

- (1) From Schedule 6, page 1 of Exhibit\_\_(DCP-1).
- (2) From Schedule 6, page 3 of Exhibit\_\_(DCP-1).
- (3) From Schedule 6, page 4 of Exhibit\_\_(DCP-1).
- (4) Average of columns 2 and 3.
- (5) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 5) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Co. , 3.20% x (1+( 1/2 x 4.75% ) ) = 3.28%.
- (6) Column 5 + column 6.
- (7) Focusing on the upper portion of the broad DCF range, consistent with Mr. Parcell's analysis, is noted on lines 15-17 of page 19 of his direct testimony.