EXH. RAM-2 DOCKETS UE-19\_\_/UG-19\_ 2019 PSE GENERAL RATE CASE WITNESS: DR. ROGER A. MORIN

## BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant,	Docket UE-19
<b>v.</b>	Docket UG-19
PUGET SOUND ENERGY,	
Respondent.	

## FIRST EXHIBIT (PROFESSIONAL QUALIFICATIONS) TO THE PREFILED DIRECT TESTIMONY OF

DR. ROGER A. MORIN

ON BEHALF OF PUGET SOUND ENERGY

I was a faculty member of Advanced Management Research International. I am currently a faculty member of The Management Exchange Inc. and Exnet, where I continue to conduct frequent national executive-level education seminars throughout the United States and Canada. In the last twenty years, I have conducted numerous national seminars on "Utility Finance," "Utility Cost of Capital," "Alternative Regulatory Frameworks," and on "Utility Capital Allocation," which I have developed on behalf of The Management Exchange Inc., in conjunction with Public Utilities Reports, Inc.

I have authored or co-authored several books, monographs, and articles in academic scientific journals on the subject of finance. They have appeared in a variety of journals, including The Journal of Finance, The Journal of Business Administration, International Management Review, and Public Utility

Fortnightly. I published a widely-used treatise on regulatory finance, <u>Utilities'</u>

<u>Cost of Capital</u> (Public Utilities Reports, Inc., Arlington, Va. 1984). My more recent book on regulatory matters, <u>Regulatory Finance</u> (Public Utilities Reports, Inc., Arlington, Va. 1994), is a voluminous treatise on the application of finance to regulated utilities. A revised and expanded edition of <u>Regulatory Finance</u> was published in 2006.

I have engaged in extensive consulting activities on behalf of numerous corporations, legal firms, and regulatory bodies in matters of financial management and corporate litigation. Attachment A to this First Exhibit to the Prefiled Direct Testimony of Dr. Roger A. Morin, Exh. RAM-2, describes my professional credentials in more detail.

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## Q. Have you previously testified on cost of capital before utility regulatory

## commissions?

A. Yes, I have been a cost of capital witness before more than forty (40) regulatory bodies in North America, including the Washington Utilities and Transportation Commission ("WUTC", or "Commission"), the Federal Energy Regulatory Commission, and the Federal Communications Commission. I have also testified before the following state, provincial, and other local regulatory commissions:

Alabama	Florida	Missouri	Ontario
Alaska	Georgia	Montana	Oregon
Alberta	Hawaii	Nevada	Pennsylvania
Arizona	Illinois	New Brunswick	Quebec
Arkansas	Indiana	New Hampshire	South Carolina
British Columbia	Iowa	New Jersey	South Dakota
California	Kentucky	New Mexico	Tennessee
City of New Orleans, Louisiana	Louisiana	New York	Texas
Colorado	Maine	Newfoundland	Utah
CRTC	Manitoba	North Carolina	Vermont
Delaware	Maryland	North Dakota	Virginia
District of Columbia	Michigan	Nova Scotia	Washington
FCC	Minnesota	Ohio	West Virginia
FERC	Mississippi	Oklahoma	

The details of my participation in regulatory proceedings are provided in more detail in Attachment A to this First Exhibit to the Prefiled Direct Testimony of Dr. Roger A. Morin, Exh. RAM-2.

Attachment A to the
First Exhibit to the
Prefiled Direct Testimony of
Dr. Roger A. Morin,
Exh. RAM-2

1	EMPLOYMENT HISTORY
2	Lecturer, Wharton School of Finance, Univ. of Pennsylvania, 1972-3
3 4	Assistant Professor, University of Montreal School of Business, 1973-1976.
5	Associate Professor, University of Montreal School of Business, 1976-1979.
7	Professor of Finance, Georgia State University, 1979-2011
8 9 0	Professor of Finance for Regulated Industry and Director, Center for the Study of Regulated Industry, Robinson College of Business, Georgia State University, 1985-2009
1 2	Visiting Professor of Finance, Amos Tuck School of Business, Dartmouth College, Hanover, N.H., 1986
3	Emeritus Professor of Finance, Georgia State University, 2007-16
4	OTHER BUSINESS ASSOCIATIONS
5	Communications Engineer, Bell Canada, 1962-1967.
6	Member Board of Directors, Financial Research Institute of Canada, 1974-1980.
8	Co-founder and Director Canadian Finance Research Foundation, 1977.
20	Vice-President of Research, Garmaise-Thomson & Associates, Investment Management Consultants, 1980-1981.
22	Member Board of Directors, Executive Visions Inc., 1985-2016
23	Board of External Advisors, College of Business, Georgia State University, Member 1987-1991.
25	Member Board of Directors, Hotel Equities Inc., 2009-2016

1	PROFESSIONAL CLIENTS
2	AGL Resources
3	AT & T Communications
4	Alagasco - Energen
5	Alaska Anchorage Municipal Light & Power
6	Alberta Power Ltd.
7	Allete
8	Alliant Energy
9	AmerenUE
10	American Water
11	Ameritech
12	Arkansas Western Gas
13	ATC Transmission
14	Baltimore Gas & Electric – Constellation Energy
15	Bangor Hydro-Electric
16	B.C. Telephone
17	B C GAS
18	Bell Canada
19	Bellcore
20	Bell South Corp.
21	Bruncor (New Brunswick Telephone)
22	Burlington-Northern
23	C & S Bank
24	California Pacific
25	Cajun Electric

1	Canadian Radio-Television & Telecomm. Commission
2	Canadian Utilities
3	Canadian Western Natural Gas
4	Cascade Natural Gas
5	Centel
6	Centra Gas
7	Central Illinois Light & Power Co
8	Central Telephone
9	Central & South West Corp.
10	CH Energy
11	Chattanooga Gas Company
12	Cincinnatti Gas & Electric
13	Cinergy Corp.
14	Citizens Utilities
15	City Gas of Florida
16	CN-CP Telecommunications
17	Commonwealth Telephone Co.
18	Columbia Gas System
19	Consolidated Edison
20	Consolidated Natural Gas
21	Constellation Energy
22	Delmarva Power & Light Co
23	Deerpath Group
24	Detroit Edison Company
25	Dayton Power & Light Co

1	DPL Energy
2	Duke Energy Indiana
3	Duke Energy Kentucky
4	Duke Energy Ohio
5	DTE Energy
6	Edison International
7	Edmonton Power Company
8	Elizabethtown Gas Co.
9	Emera
10	Energen
11	Engraph Corporation
12	Entergy Corp.
13	Entergy Arkansas Inc.
14	Entergy Gulf States, Inc.
15	Entergy Louisiana, Inc.
16	Entergy Mississippi Power
17	Entergy New Orleans, Inc.
18	First Energy
19	Florida Water Association
20	Fortis
21	Garmaise-Thomson & Assoc., Investment Consultants
22	Gaz Metropolitain
23	General Public Utilities
24	Georgia Broadcasting Corp.
25	Georgia Power Company

1	GTE California - Verizon
2	GTE Northwest Inc Verizon
3	GTE Service Corp Verizon
4	GTE Southwest Incorporated - Verizon
5	Gulf Power Company
6	Havasu Water Inc.
7	Hawaiian Electric Company
8	Hawaiian Elec & Light Co
9	Heater Utilities – Aqua - America
10	Hope Gas Inc.
11	Hydro-Quebec
12	ICG Utilities
13	Illinois Commerce Commission
14	Island Telephone
15	ITC Holdings
16	Jersey Central Power & Light
17	Kansas Power & Light
18	KeySpan Energy
19	Maine Public Service
20	Manitoba Hydro
21	Maritime Telephone
22	Maui Electric Co.
23	Metropolitan Edison Co.
24	Minister of Natural Resources Province of Quebec
25	Minnesota Power & Light

- 1	
1	Mississippi Power Company
2	Missouri Gas Energy
3	Mountain Bell
4	National Grid PLC
5	Nevada Power Company
6	New Brunswick Power
7	Newfoundland Power Inc Fortis Inc.
8	New Market Hydro
9	New Tel Enterprises Ltd.
10	New York Telephone Co.
11	NextEra Energy
12	Niagara Mohawk Power Corp
13	Norfolk-Southern
14	Northeast Utilities
15	Northern Telephone Ltd.
16	Northwestern Bell
17	Northwestern Utilities Ltd.
18	Nova Scotia Power
19	Nova Scotia Utility and Review Board
20	NUI Corp.
21	NV Energy
22	NYNEX
23	Oklahoma G & E
24	Ontario Telephone Service Commission
25	Orange & Rockland
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1	PNM Resources
2	PPL Corp
3	Pacific Northwest Bell
4	People's Gas System Inc.
5	People's Natural Gas
6	Pennsylvania Electric Co.
7	Pepco Holdings
8	Potomac Electric Power Co.
9	Price Waterhouse
10	PSI Energy
11	Public Service Electric & Gas
12	Public Service of New Hampshire
13	Public Service of New Mexico
14	Puget Sound Energy
15	Quebec Telephone
16	Regie de l'Energie du Quebec
17	Rockland Electric
18	Rochester Telephone
19	SNL Center for Financial Execution
20	San Diego Gas & Electric
21	SaskPower
22	Sempra
23	Sierra Pacific Power Company
24	Source Gas
25	Southern Bell

Exh. RAM-2

Page 12 of 27

First Exhibit (Professional Qualifications) to the

Prefiled Direct Testimony of Dr. Roger A. Morin

EDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80	- 1	
South Central Bell Sun City Water Company TECO Energy The Southern Company Touche Ross and Company TransEnergie Trans-Quebec & Maritimes Pipeline TXU Corp US WEST Communications Union Heat Light & Power Utah Power & Light Vermont Gas Systems Inc. Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTEDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73 Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75 Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78 Investment Dealers Association of Canada, 1977-78 Financial Research Foundation, bi-annual seminar, 1975-79 Advanced Management Research (AMR), faculty member, 1977-80 Financial Analysts Federation, Educational chapter: "Financial Futures of Canada (Company) Financial Analysts Federation, Educational chapter: "Financial Futures of Canada (Company)  Touche Ross and Company Touche Ross and Company TransEnergie Tran	1	Southern States Utilities
Sun City Water Company TECO Energy The Southern Company Touche Ross and Company TransEnergie Trans-Quebec & Maritimes Pipeline TXU Corp US WEST Communications Union Heat Light & Power Utah Power & Light Vermont Gas Systems Inc. Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTEDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73 Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75 Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78 Investment Dealers Association of Canada, 1977-78 Financial Research Foundation, bi-annual seminar, 1975-79 Advanced Management Research (AMR), faculty member, 1977-80 Financial Analysts Federation, Educational chapter: "Financial Futures of the Company of the Comp	2	Southern Union Gas
TECO Energy The Southern Company Touche Ross and Company TransEnergie Trans-Quebec & Maritimes Pipeline TXU Corp US WEST Communications Union Heat Light & Power Utah Power & Light Vermont Gas Systems Inc. Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTE EDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73 Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75 Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78 Investment Dealers Association of Canada, 1977-78 Financial Research Foundation, bi-annual seminar, 1975-79 Advanced Management Research (AMR), faculty member, 1977-80 Financial Analysts Federation, Educational chapter: "Financial Futures of the State of Canada (Company) and the State of Canada (Compan	3	South Central Bell
The Southern Company Touche Ross and Company TransEnergie Trans-Quebec & Maritimes Pipeline TXU Corp US WEST Communications Union Heat Light & Power Utah Power & Light Vermont Gas Systems Inc. Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTEDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73 Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75 Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78 Investment Dealers Association of Canada, 1977-78 Financial Research Foundation, bi-annual seminar, 1975-79 Advanced Management Research (AMR), faculty member, 1977-80 Financial Analysts Federation, Educational chapter: "Financial Future of Financial Future of Financial Analysts Federation, Educational chapter: "Financial Future of Financial	4	Sun City Water Company
Touche Ross and Company TransEnergie Trans-Quebec & Maritimes Pipeline TXU Corp US WEST Communications Union Heat Light & Power Utah Power & Light Vermont Gas Systems Inc. Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTEDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73 Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75 Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78 Investment Dealers Association of Canada, 1977-78 Financial Research Foundation, bi-annual seminar, 1975-79 Advanced Management Research (AMR), faculty member, 1977-80 Financial Analysts Federation, Educational chapter: "Financial Futures of Part Properties of Part	5	TECO Energy
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Trans-Quebec & Maritimes Pipeline  TXU Corp  US WEST Communications  Union Heat Light & Power  Utah Power & Light  Vermont Gas Systems Inc.  Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTEDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future of the Communication of Canada of the Canada of Canad	7	Touche Ross and Company
TXU Corp  US WEST Communications  Union Heat Light & Power  Utah Power & Light  Vermont Gas Systems Inc.  Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTE  EDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future of Canada (Porton Porton Port	8	TransEnergie
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Union Heat Light & Power  Utah Power & Light  Vermont Gas Systems Inc.  Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTEDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future of Canada and Canada a	10	TXU Corp
Utah Power & Light  Vermont Gas Systems Inc.  Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTE EDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future of the Company of the	11	US WEST Communications
Vermont Gas Systems Inc.  Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTE EDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future of Canada (Part Proposition of Canada) (Part P	12	Union Heat Light & Power
Wisconsin Power & Light  MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTEDUCATION  Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future of the professional seminar of the profe	13	Utah Power & Light
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Canadian Institute of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future of Marketing, Corporate Finance, 1971-73  Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Institute of Certified Public Accountants, Mergers & Acqui	15	Wisconsin Power & Light
Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75  Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future	- 1	MANAGEMENT DEVELOPMENT AND PROFESSIONAL EXECUTIVE EDUCATION
Institute of Certified Public Accountants, Mergers & Acquisitions, 1975-78  Investment Dealers Association of Canada, 1977-78  Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future	18	Canadian Institute of Marketing, Corporate Finance, 1971-73
Acquisitions, 1975-78 Investment Dealers Association of Canada, 1977-78 Financial Research Foundation, bi-annual seminar, 1975-79 Advanced Management Research (AMR), faculty member, 1977-80 Financial Analysts Federation, Educational chapter: "Financial Future	19	Hydro-Quebec, "Capital Budgeting Under Uncertainty," 1974-75
Financial Research Foundation, bi-annual seminar, 1975-79  Advanced Management Research (AMR), faculty member, 1977-80  Financial Analysts Federation, Educational chapter: "Financial Future		,
Advanced Management Research (AMR), faculty member, 1977-80 Financial Analysts Federation, Educational chapter: "Financial Future."	22	Investment Dealers Association of Canada, 1977-78
Financial Analysts Federation, Educational chapter: "Financial Future."	23	Financial Research Foundation, bi-annual seminar, 1975-79
	24	Advanced Management Research (AMR), faculty member, 1977-80
		Financial Analysts Federation, Educational chapter: "Financial Futures Contracts" seminar

1	Exnet Inc. a.k.a. The Management Exchange Inc., faculty member, 1981-2008.
2 3 4 5 6 7 8 9	National Seminars: Risk and Return on Capital Projects Cost of Capital for Regulated Utilities Capital Allocation for Utilities Alternative Regulatory Frameworks Utility Directors' Workshop Shareholder Value Creation for Utilities Fundamentals of Utility Finance Contemporary Issues in Utility Finance
10	SNL Center for Financial Education. faculty member 2008-2016.
11	National Seminars: Essentials of Utility Finance
12	Georgia State University College of Business, Management Development Program, faculty member, 1981-1994.
14	EXPERT TESTIMONY & UTILITY CONSULTING AREAS OF EXPERTISE
15	Corporate Finance
16	Rate of Return
17	Capital Structure
18	Generic Cost of Capital
19	Costing Methodology
20	Depreciation
21	Flow-Through vs Normalization
22	Revenue Requirements Methodology
23	Utility Capital Expenditures Analysis
24	Risk Analysis
25	Capital Allocation
26	Divisional Cost of Capital, Unbundling
27	Incentive Regulation & Alternative Regulatory Plans
28	Shareholder Value Creation

- 1	
1	Louisiana Public Service Commission
2	Maine Public Utilities Commission
3	Manitoba Board of Public Utilities
4	Maryland Public Service Commission
5	Michigan Public Service Commission
6	Minnesota Public Utilities Commission
7	Mississippi Public Service Commission
8	Missouri Public Service Commission
9	Montana Public Service Commission
0	National Energy Board of Canada
1	Nebraska Public Service Commission
2	Nevada Public Utilities Commission
3	New Brunswick Board of Public Commissioners
4	New Hampshire Public Utilities Commission
5	New Jersey Board of Public Utilities
6	New Mexico Public Regulation Commission
7	New Orleans City Council
8	New York Public Service Commission
9	Newfoundland Board of Commissioners of Public Utilities
20	North Carolina Utilities Commission
21	Nova Scotia Board of Public Utilities
22	Ohio Public Utilities Commission
23	Oklahoma Corporation Commission
24	Ontario Telephone Service Commission
25	Ontario Energy Board

1	Oregon Public Utility Service Commission
2	Pennsylvania Public Utility Commission
3	Quebec Regie de l'Energie
4	Quebec Telephone Service Commission
5	South Carolina Public Service Commission
6	South Dakota Public Utilities Commission
7	Tennessee Regulatory Authority
8	Texas Public Utility Commission
9	Utah Public Service Commission
10	Vermont Department of Public Services
11	Virginia State Corporation Commission
12	Washington Utilities & Transportation Commission
13	West Virginia Public Service Commission
14	SERVICE AS EXPERT WITNESS
15	Southern Bell, So. Carolina PSC, Docket #81-201C
16	Southern Bell, So. Carolina PSC, Docket #82-294C
17	Southern Bell, North Carolina PSC, Docket #P-55-816
18	Metropolitan Edison, Pennsylvania PUC, Docket #R-822249
19	Pennsylvania Electric, Pennsylvania PUC, Docket #R-822250
20	Georgia Power, Georgia PSC, Docket # 3270-U, 1981
21	Georgia Power, Georgia PSC, Docket # 3397-U, 1983
22	Georgia Power, Georgia PSC, Docket # 3673-U, 1987
23	Georgia Power, F.E.R.C., Docket # ER 80-326, 80-327
24	Georgia Power F.E.R.C. Docket # FR 81-730 80-731

- 1	
1	Georgia Power, F.E.R.C., Docket # ER 85-730, 85-731
2	Bell Canada, CRTC 1987
3	Northern Telephone, Ontario PSC
4	GTE-Quebec Telephone, Quebec PSC, Docket 84-052B
5	Newtel., Nfld. Brd of Public Commission PU 11-87
6	CN-CP Telecommunications, CRTC
7	Quebec Northern Telephone, Quebec PSC
8	Edmonton Power Company, Alberta Public Service Board
9	Kansas Power & Light, F.E.R.C., Docket # ER 83-418
0	NYNEX, FCC generic cost of capital Docket #84-800
1	Bell South, FCC generic cost of capital Docket #84-800
2	American Water Works - Tennessee, Docket #7226
3	Burlington-Northern - Oklahoma State Board of Taxes
4	Georgia Power, Georgia PSC, Docket # 3549-U
5	GTE Service Corp., FCC Docket #84-200
6	Mississippi Power Co., Miss. PSC, Docket U-4761
7	Citizens Utilities, Ariz. Corp. Comm., Docket U2334-86020
8	Quebec Telephone, Quebec PSC, 1986, 1987, 1992
9	Newfoundland L & P, Nfld. Brd. Publ Comm. 1987, 1991
20	Northwestern Bell, Minnesota PSC, Docket P-421/CI-86-354
21	GTE Service Corp., FCC Docket #87-463
22	Anchorage Municipal Power & Light, Alaska PUC, 1988
23	New Brunswick Telephone, N.B. PUC, 1988
24	Trans-Quebec Maritime, Nat'l Energy Brd. of Cda, '88-92
25	Gulf Power Co., Florida PSC, Docket #88-1167-EI

- 1	
1	Mountain States Bell, Montana PSC, #88-1.2
2	Mountain States Bell, Arizona CC, #E-1051-88-146
3	Georgia Power, Georgia PSC, Docket # 3840-U, 1989
4	Rochester Telephone, New York PSC, Docket # 89-C-022
5	Noverco - Gaz Metro, Quebec Natural Gas PSC, #R-3164-89
6	GTE Northwest, Washington UTC, #U-89-3031
7	Orange & Rockland, New York PSC, Case 89-E-175
8	Central Illinois Light Company, ICC, Case 90-0127
9	Peoples Natural Gas, Pennsylvania PSC, Case
10	Gulf Power, Florida PSC, Case # 891345-EI
11	ICG Utilities, Manitoba BPU, Case 1989
12	New Tel Enterprises, CRTC, Docket #90-15
13	Peoples Gas Systems, Florida PSC
14	Jersey Central Pwr & Light, N.J. PUB, Case ER 89110912J
15	Alabama Gas Co., Alabama PSC, Case 890001
16	Trans-Quebec Maritime Pipeline, Cdn. Nat'l Energy Board
17	Mountain Bell, Utah PSC,
18	Mountain Bell, Colorado PUB
19	South Central Bell, Louisiana PS
20	Hope Gas, West Virginia PSC
21	Vermont Gas Systems, Vermont PSC
22	Alberta Power Ltd., Alberta PUB
23	Ohio Utilities Company, Ohio PSC
24	Georgia Power Company, Georgia PSC
25	Sun City Water Company

1	Havasu Water Inc.
2	Centra Gas (Manitoba) Co.
3	Central Telephone Co. Nevada
4	AGT Ltd., CRTC 1992
5	BC GAS, BCPUB 1992
6	California Water Association, California PUC 1992
7	Maritime Telephone 1993
8	BCE Enterprises, Bell Canada, 1993
9	Citizens Utilities Arizona gas division 1993
10	PSI Resources 1993-5
11	CILCORP gas division 1994
12	GTE Northwest Oregon 1993
13	Stentor Group 1994-5
14	Bell Canada 1994-1995
15	PSI Energy 1993, 1994, 1995, 1999
16	Cincinnati Gas & Electric 1994, 1996, 1999, 2004
17	Southern States Utilities, 1995
18	CILCO 1995, 1999, 2001
19	Commonwealth Telephone 1996
20	Edison International 1996, 1998
21	Citizens Utilities 1997
22	Stentor Companies 1997
23	Hydro-Quebec 1998
24	Entergy Gulf States Louisiana 1998, 1999, 2001, 2002, 2003
25	Detroit Edison, 1999, 2003

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1	Entergy Gulf States, Texas, 2000, 2004
2	Hydro Quebec TransEnergie, 2001, 2004
3	Sierra Pacific Company, 2000, 2001, 2002, 2007, 2010
4	Nevada Power Company, 2001
5	Mid American Energy, 2001, 2002
6	Entergy Louisiana Inc. 2001, 2002, 2004
7	Mississippi Power Company, 2001, 2002, 2007
8	Oklahoma Gas & Electric Company, 2002 -2003
9	Public Service Electric & Gas, 2001, 2002
10	NUI Corp (Elizabethtown Gas Company), 2002
11	Jersey Central Power & Light, 2002
12	San Diego Gas & Electric, 2002, 2012, 2014
13	New Brunswick Power, 2002
14	Entergy New Orleans, 2002, 2008
15	Hydro-Quebec Distribution 2002
16	PSI Energy 2003
17	Fortis – Newfoundland Power & Light 2002
18	Emera – Nova Scotia Power 2004
19	Hydro-Quebec TransEnergie 2004
20	Hawaiian Electric 2004
21	Missouri Gas Energy 2004
22	AGL Resources 2004
23	Arkansas Western Gas 2004
24	Public Service of New Hampshire 2005
,5	Hawaiian Flectric Company 2005, 2008, 2009

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1	Delmarva Power & Light Company 2005, 2009
2	Union Heat Power & Light 2005
3	Puget Sound Energy 2006, 2007, 2009
4	Cascade Natural Gas 2006
5	Entergy Arkansas 2006-7
6	Bangor Hydro 2006-7
7	Delmarva 2006, 2007, 2009
8	Potomac Electric Power Co. 2006, 2007, 2009
9	Duke Energy Ohio, 2007, 2008, 2009
10	Duke Energy Kentucky 2009
11	Consolidated Edison 2007 Docket 07-E-0523
12	Duke Energy Ohio Docket 07-589-GA-AIR
13	Hawaiian Electric Company Docket 05-0315
14	Sierra Pacific Power Docket ER07-1371-000
15	Public Service New Mexico Docket 06-00210-UT
16	Detroit Edison Docket U-15244
17	Potomac Electric Power Docket FC-1053
18	Delmarva, Delaware, Docket 09-414
19	Atlantic City Electric, New Jersey, Docket ER-09080664
20	Maui Electric Co, Hawaii, Docket 2009-0163, 2011
21	Niagara Mohawk, New York, Docket 10E-0050
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23	Gaz Metro, Regie de l'Energie (Quebec), Docket 2012 R-3752-2011
24	California Pacific Electric Company, LLC, California PUC, Docket A-12-02-014
25	Duke Energy Ohio, Ohio Case No. 11-XXXX-EL-SSO

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2	San Diego Gas & Electric, California PUC, 2012, Docket A-12-04
3	Southern California Gas, California PUC, 2012, Docket A-12-04
4	Puget Sound Energy
5	Puget Sound Energy
6	Duke Energy of Ohio
7	Duke Energy of Kentucky
8	Duke Energy of Ohio
9	Dayton Power & Light
10	Missouri American Water
11	California Power Electric Company
12	PROFESSIONAL AND LEARNED SOCIETIES
13	Engineering Institute of Canada, 1967-1972
14	Canada Council Award, recipient 1971 and 1972
15	Canadian Association Administrative Sciences, 1973-80
16	American Association of Decision Sciences, 1974-1978
17	American Finance Association, 1975-2002
18	Financial Management Association, 1978-2002
19	ACTIVITIES IN PROFESSIONAL ASSOCIATIONS AND MEETINGS
20 21	Chairman of meeting on "New Developments in Utility Cost of Capital", Southern Finance Association, Atlanta, Nov. 1982
22 23	Chairman of meeting on "Public Utility Rate of Return", Southeastern Public Utility Conference, Atlanta, Oct. 1982
24 25	Chairman of meeting on "Current Issues in Regulatory Finance", Financial Management Association, Atlanta, Oct. 1983

1 2	Chairman of meeting on "Utility Cost of Capital", Financial Management Association, Toronto, Canada, Oct. 1984.
3	Committee on New Product Development, FMA, 1985
4 5	Discussant, "Tobin's Q Ratio", paper presented at Financial Management Association, New York, N.Y., Oct. 1986
6 7 8	Guest speaker, "Utility Capital Structure: New Developments", National Society of Rate of Return Analysts 18th Financial Forum, Wash., D.C. Oct. 1986
9 10 11	Opening address, "Capital Expenditures Analysis: Methodology vs Mythology," Bellcore Economic Analysis Conference, Naples Fl, 1988.
12 13 14	Guest speaker, "Mythodology in Regulatory Finance", Society of Utility Rate of Return Analysts (SURFA), Annual Conference, Wash., D.C. February 2007.
15	PAPERS PRESENTED:
16 17	"An Empirical Study of Multi-Period Asset Pricing," annual meeting of Financial Management Assoc., Las Vegas Nevada, 1987.
18 19 20	"Utility Capital Expenditures Analysis: Net Present Value vs Revenue Requirements", annual meeting of Financial Management Assoc., Denver, Colorado, October 1985.
21 22	"Intervention Analysis and the Dynamics of Market Efficiency", annual meeting of Financial Management Assoc., San Francisco, Oct. 1982
23 24	"Intertemporal Market-Line Theory: An Empirical Study," annual meeting of Eastern Finance Assoc., Newport, R.I. 1981
25 26	"Option Writing for Financial Institutions: A Cost-Benefit Analysis", 1979 annual meeting Financial Research Foundation
27 28	"Free-lunch on the Toronto Stock Exchange", annual meeting of Financial Research Foundation of Canada, 1978.
29 30	"Simulation System Computer Software SIMFIN", HP International Business Computer Users Group, London, 1975.
31 32	"Inflation Accounting: Implications for Financial Analysis." Institute of Certified Public Accountants Symposium, 1979.

1	OFFICES IN PROFESSIONAL ASSOCIATIONS
2 3	President, International Hewlett-Packard Business Computers Users Group, 1977
4 5	Chairman Program Committee, International HP Business Computers Users Group, London, England, 1975
6 7	Program Coordinator, Canadian Assoc. of Administrative Sciences, 1976
8 9	Member, New Product Development Committee, Financial Management Association, 1985-1986
10 11 12 13	Reviewer: Journal of Financial Research Financial Management Financial Review Journal of Finance
14	<u>PUBLICATIONS</u>
15	"Risk Aversion Revisited", Journal of Finance, Sept. 1983
16 17	"Hedging Regulatory Lag with Financial Futures," <u>Journal of Finance</u> , May 1983. (with G. Gay, R. Kolb)
18	"The Effect of CWIP on Cost of Capital," Public Utilities Fortnightly, July 1986.
19 20	"The Effect of CWIP on Revenue Requirements" <u>Public Utilities Fortnightly</u> , August 1986.
21 22	"Intervention Analysis and the Dynamics of Market Efficiency," <u>Time-Series Applications</u> , New York: North Holland, 1983. (with K. El-Sheshai)
23 24	"Market-Line Theory and the Canadian Equity Market," <u>Journal of Business</u> <u>Administration</u> , Jan. 1982, M. Brennan, editor
25 26	"Efficiency of Canadian Equity Markets," <u>International Management Review,</u> Feb. 1978.
27 28	"Intertemporal Market-Line Theory: An Empirical Test," <u>Financial Review</u> , Proceedings of the Eastern Finance Association, 1981.

1	BOOKS
2	<u>Utilities' Cost of Capital</u> , Public Utilities Reports Inc., Arlington, Va., 1984.
3	Regulatory Finance, Public Utilities Reports Inc., Arlington, Va., 2004
4	Driving Shareholder Value, McGraw-Hill, January 2001.
5	The New Regulatory Finance, Public Utilities Reports Inc., Arlington, Va., 2006.
6	<u>MONOGRAPHS</u>
7 8	Determining Cost of Capital for Regulated Industries, Public Utilities Reports, Inc., and The Management Exchange Inc., 1982 - 1993. (with V.L. Andrews)
9 10	Alternative Regulatory Frameworks, Public Utilities Reports, Inc., and The Management Exchange Inc., 1993. (with V.L. Andrews)
11 12	Risk and Return in Capital Projects, The Management Exchange Inc., 1980. (with B. Deschamps)
13	Utility Capital Expenditure Analysis, The Management Exchange Inc., 1983.
14 15	Regulation of Cable Television: An Econometric Planning Model, Quebec Department of Communications, 1978.
16 17	"An Economic & Financial Profile of the Canadian Cablevision Industry," Canadian Radio-Television & Telecommunication Commission (CRTC), 1978.
18 19	Computer Users' Manual: Finance and Investment Programs, University of Montreal Press, 1974, revised 1978.
20 21	Fiber Optics Communications: Economic Characteristics, Quebec Department of Communications, 1978.
22 23	"Canadian Equity Market Inefficiencies", Capital Market Research Memorandum, Garmaise & Thomson Investment Consultants, 1979.
24	MISCELLANEOUS CONSULTING REPORTS
25 26	"Operational Risk Analysis: California Water Utilities," Calif. Water Association 1993.
27 28	"Cost of Capital Methodologies for Independent Telephone Systems", Ontario Telephone Service Commission, March 1989.

1 2	"The Effect of CWIP on Cost of Capital and Revenue Requirements", Georgia Power Company, 1985.
3 4 5	"Costing Methodology and the Effect of Alternate Depreciation and Costing Methods on Revenue Requirements and Utility Finances", Gaz Metropolitan Inc., 1985.
6 7	"Simulated Capital Structure of CN-CP Telecommunications: A Critique", CRTC, 1977.
8	"Telecommunications Cost Inquiry: Critique," CRTC, 1977.
9	"Social Rate of Discount in the Public Sector", CRTC Policy Statement, 1974.
10 11	"Technical Problems in Capital Projects Analysis", CRTC Policy Statement, 1974.
12	RESEARCH GRANTS
13 14	"Econometric Planning Model of the Cablevision Industry," International Institute of Quantitative Economics, CRTC.
15 16	"Application of the Averch-Johnson Model to Telecommunications Utilities," Canadian Radio-Television Commission. (CRTC)
17	"Economics of the Fiber Optics Industry", Quebec Dept. of Communications.
18 19	"Intervention Analysis and the Dynamics of Market Efficiency", Georgia State Univ. College of Business, 1981.
20	"Firm Size and Beta Stability", Georgia State University College of Business, 1982.
21	
	"Risk Aversion and the Demand for Risky Assets", Georgia State University College of Business, 1981.