

Exhibit No.:  
Issues: Interim Rates  
Witness: Johannes P.  
Pfeifenberger  
Sponsoring Party: Union Electric Co.  
Type of Exhibit: Direct Testimony  
Case No.: ER-2010-0036  
Date Testimony Prepared: October 20, 2009

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. ER-2010-0036**

**DIRECT TESTIMONY ON INTERIM RATES**

**OF**

**JOHANNES P. PFEIFENBERGER**

**ON**

**BEHALF OF**

**UNION ELECTRIC COMPANY  
d/b/a AmerenUE**

**Cambridge, Massachusetts  
October, 2009**

1                                   **DIRECT TESTIMONY ON INTERIM RATES**  
2   **OF**  
3                                   **JOHANNES P. PFEIFENBERGER**

4                                   **CASE NO. ER-2010-0036**

5           **Q.     Please state your name, title, and business address.**

6           A.     My name is Johannes P. Pfeifenberger. My address is 44 Brattle Street,  
7                   Cambridge Massachusetts 02138. I am a Principal of *The Brattle Group*  
8                   (Brattle) where I lead the firm's utilities practice area. Brattle is an economic  
9                   consulting firm with offices in Cambridge, Massachusetts, Washington D.C.;  
10                  San Francisco; London; Brussels, and Madrid.

11          **Q.     Please summarize your educational background and qualifications.**

12          A.     I am an economist with a background in power engineering and over 20 years  
13                  of experience in utility regulation and finance. I received a M.A. in  
14                  Economics and Finance from Brandeis University and a M.S. in Electrical  
15                  Engineering with a specialization in Power Engineering and Energy  
16                  Economics from the University of Technology, Vienna, Austria. I am the  
17                  author and co-author of numerous articles, reports, and presentations on  
18                  subject areas related to electric utility regulation and restructuring, including  
19                  ratemaking and regulatory policies. I testified or submitted testimony,  
20                  declarations, and reports in a number of cases before the Federal Energy  
21                  Regulation Commission, the Maine Public Utilities Commission, the New  
22                  York Public Service Commission, the Colorado Public Utilities Commission,  
23                  the Arizona Corporations Commission, the Alberta Energy and Utilities  
24                  Board, the Public Service Commission of Wisconsin, the Illinois Commerce  
25                  Commission, and the Missouri Public Service Commission. I have also  
26                  submitted testimony and expert reports on industry restructuring, contract  
27                  disputes, antitrust issues, and economic damages to the U.S. House of  
28                  Representatives, the Federal Communications Commission, U.S. District

1 Courts, and in arbitration proceedings. Appendix A to my testimony contains  
2 a more complete description of my qualifications.

3 **Q. What is the purpose of your direct testimony on interim rates?**

4 A. The purpose of my direct testimony on interim rates is to sponsor a study  
5 conducted under my supervision regarding regulatory practices in the fifty  
6 states and how those practices affect regulatory lag.

7 **Q. How was this study conducted?**

8 A. Brattle analysts working at my direction and under my supervision surveyed  
9 state utility regulatory commission staff, reviewed utility tariffs, and compiled  
10 and examined studies and data compilations from well-respected  
11 organizations in the utility industry for the purpose of developing a study of  
12 five factors that impact the extent of regulatory lag in a jurisdiction. These  
13 organizations included Regulatory Research Associates, The National  
14 Association of Regulatory Utility Commissioners, the Edison Electric  
15 Institute, and the Nuclear Energy Institute.

16 **Q. What does the study consist of?**

17 A. The study is attached to my testimony as Schedule JPP-E1, and consists of six  
18 tables, as follows:

19 Table 1: Preliminary Ranking of States

20 Table 2: Fuel Adjustment Clause Characteristics<sup>1</sup>

21 Table 3: Time Needed for Rate Case in States

22 Table 4: Details Behind Temporary or Interim Rates

23 Table 5: Regulatory Treatment in Electric Utility Rate Cases  
24 (Forecasted, Historic or Hybrid Test Years); and

25 Table 6: Construction Work in Progress (CWIP)  
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<sup>1</sup> The fuel adjustment clause-related information was made a part of the record in AmerenUE's last rate case, which was concluded earlier this year.

- 1       **Q.     What does the study show?**
- 2       A.     The five regulatory factors that were examined, the details of which are shown
- 3             in Tables 2 through 6, were assigned numerical rankings as indicated in the
- 4             notes to Table 1, with a higher ranking given for regulatory factors that result
- 5             in less regulatory lag. The results of those rankings are shown in Table 1.
- 6             The rankings are designed to indicate which states have less regulatory lag
- 7             (Minnesota has the least<sup>2</sup>) versus those with more regulatory lag (New
- 8             Hampshire has the most). Missouri is ranked 47<sup>th</sup>, the third lowest, indicating
- 9             that Missouri regulatory lag as measured by the overall ranking in this table is
- 10            greater than the lag present in all but two other states.
- 
- 11       **Q.     What are the most important factors that drive Missouri's low ranking?**
- 12       A.     The factors that most drive Missouri's low ranking are longer than average
- 13             time needed to complete a rate case, the lack of use (historically) of interim
- 14             rates, and the exclusive use of an historic test year. Many states also received
- 15             higher scores for the design of their fuel adjustment clauses because they
- 16             allow more frequent rate adjustments and/or because they rely on projected
- 17             rather than historical costs. However, the adoption of a fuel adjustment clause
- 18             in Missouri has clearly improved fuel cost recovery and has provided some
- 19             mitigation of regulatory lag.
- 
- 20       **Q.     Does this conclude your direct testimony on interim rates?**
- 21       A.     Yes, it does.

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<sup>2</sup> Nebraska is excluded because it has no investor-owned utilities.

In the Matter of Union Electric Company d/b/a )  
AmerenUE's Tariffs to Increase its Annual ) Case No. ER-2010-0036  
Revenues for Electric Service. ) Tracking No. YE-2010-0054  
 ) Tracking No. YE-2010-0055


COMMONWEALTH OF MASSACHUSETTS )  
 ) ss  
CITY OF CAMBRIDGE )

1. My name is Johannes P. Pfeifenberger. I work in the City of Cambridge, Massachusetts, and I am employed by The Brattle Group as a Principal.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

  
Johannes P. Pfeifenberger

Subscribed and sworn to before me this 20 day of October, 2009.

  
Notary Public

My commission expires:



TAMMY LEE DICKISON  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
June 1, 2012



### **Qualifications of Johannes P. Pfeifenberger**

Johannes Pfeifenberger is a Principal of *The Brattle Group* where he leads the firm's utility practice area. He received a M.A. in Economics and Finance from Brandeis University and holds a M.S. ("*Diplom Ingenieur*") in Electrical Engineering, with a specialization in Power Engineering and Energy Economics from the University of Technology in Vienna, Austria. Prior to joining *The Brattle Group* in 1991, Mr. Pfeifenberger was a consultant with Cambridge Energy Research Associates of Cambridge, Massachusetts, and a research assistant at the Institute of Energy Economics in Vienna, Austria.

### **TESTIMONY AND REGULATORY FILINGS**

Before the Maine Public Utilities Commission, Docket No. 2008-156, *Assessment of a Maine ISA Structure as a Possible Alternative to ISO-NE Participation*, Report and Oral Testimony submitted on behalf of Central Maine Power Company and the Industrial Energy Consumer Group, May 2009.

In the United States District Court for the Eastern District of Pennsylvania, Case No. 08-CV-3649-NS, Expert Report on behalf of PJM Interconnection LLC re: hedge fund trading activities of financial transmission rights, March 19, 2009.

Before the Public Service Commission of Wisconsin, Docket 137-CE-149, Direct Testimony on behalf of American Transmission Company re: transmission cost-benefit analysis, January 17, 2008.

Before the Missouri Public Utilities Commission, Case No. EO-2008-0046, Rebuttal, Supplemental Rebuttal, and Surrebuttal Testimony on behalf of Midwest Independent Transmission System Operator, Inc. re: Aquila RTO cost-benefit analyses, November 30, 2007, December 28, 2007 and February 27, 2008.

Before the Maine Public Utilities Commission, Docket No. 2007-317, *An Assessment of Retail Rate Trends and Generation Costs in Maine*, Whitepaper filed on behalf of Independent Energy Producers of Maine, September 5, 2007 (with A. Schumacher).

Before the Public Service Commission of Wisconsin, Docket 137-CE-149, *Planning Analysis of the Paddock-Rockdale Project*, report by American Transmission Company re: transmission cost-benefit analysis, April 5, 2007 (with S. Newell and others).

Before the Alberta Energy and Utilities Board, Proceeding No. 1468565, submission on behalf of AltaLink Management Ltd. re: Benchmarking the Costs and Performance of Utilities using a Uniform System of Accounts, October 2006 (with C. Lapuerta).

Before the Arizona Power Plant and Transmission Line Siting Committee, Docket No. L-00000A-06-0295-00130, Case No. 130, Oral Testimony on behalf of Southern California Edison Company

re: economic impacts of the proposed Devers-Palo Verde No. 2 transmission line, September and October, 2006.

Before the Federal Energy Regulatory Commission, Docket No. EL-06097-000, Affidavit and Rebuttal Affidavit on behalf of WPS Resources Corporation re: benefits of implementing a joint and common market across the MISO-PJM service areas, August 15 and October 2, 2006.

Before the Maine Public Utilities Commission, Docket No. 2005-554, Direct Testimony and Surrebuttal on behalf of Penobscot Energy Recovery Company re: retail rate structure for station-use distribution service, June 7 and September 29, 2006.

Before the Colorado Public Utilities Commission, Docket No. 06S-234EG, Direct Testimony on behalf of Public Service Company of Colorado re: purchased power rate adjustment mechanisms and imputed debt of purchased power, April 14, 2006.

In the Matter of Binding Arbitration Between La Paloma Generating Trust, Ltd, as Revocably Assigned to La Paloma Generating Company, LLC, v. Southern California Edison Company, JAMS CASE NO. 1220032122, Direct and Rebuttal Testimony on behalf of Southern California Edison re: Power Contract Dispute, June and July 2005.

Before the Federal Energy Regulatory Commission, Docket No. EC05-43-000, Affidavit and Supplemental Affidavit on behalf of Ameren Services Company re: *Exelon Corporation and Public Service Enterprise Group Incorporated, Joint Application for Approval of Merger*, April 11 and May 27, 2005 (with P. Fox-Penner).

Before the Illinois Commerce Commission, Docket Nos. 05-160, *et al.*, Direct Testimony on Behalf of Central Illinois Light Company, Central Illinois Public Service Company, and Illinois Power Company re: Competitive Procurement of Retail Supply Obligations, February 28, 2005.

Before the Federal Energy Regulatory Commission, Docket Nos. ER04-718-000 *et al.*, Prepared Supplemental Testimony on Behalf of the Michigan Utilities re: Financial Impact of ComEd's and AEP's RTO Choices, December 21, 2004 (with S. Newell).

Before the Federal Energy Regulatory Commission, Docket Nos. ER04-375-002 *et al.*, Declaration re: Financial Impact of ComEd's and AEP's RTO Choices on Michigan and Wisconsin, August 13, 2004; Prepared Direct and Answering Testimony on Behalf of the Michigan-Wisconsin Utilities, September 15, 2004 (with S. Newell).

Before the Federal Energy Regulatory Commission, Docket No. ER00-2019-0000, *California Independent System Operator Corporation*, Direct Testimony and Rebuttal Testimony on Behalf of the California Independent System Operator re: Redesign of Transmission Access Charges, February 14, 2003 and October 2, 2003.

Before the Federal Energy Regulatory Commission, Docket No. ES02-53-000, *Midwest Independent Transmission System Operator, Inc.*, Prepared Direct Testimony on Behalf of the Midwest

Independent Transmission System Operator re: Rate Design for ISO Administrative Cost Recovery, September 24, 2002.

Before the Federal Energy Regulatory Commission, Docket No. RT01-87-001, *Midwest Independent Transmission System Operator, Inc.*, Affidavit on Behalf of the Midwest Independent Transmission System Operator re: Inter-RTO Coordination, August 31, 2001 (with P. Fox-Penner).

Before the Public Service Commission of the State of Missouri, Case No. EM-96-149, *White Paper on Incentive Regulation: Assessing Union Electric's Experimental Alternative Regulation Plan*, on behalf of Ameren Services Company, February 1, 2001 (with D. Sappington, P. Hanser, and G. Basheda).

Before the Federal Energy Regulatory Commission, Docket No. ER00-2019-0000, *California Independent System Operator Corporation*, Testimony before Settlement Judge on behalf of the California ISO re: Redesign of Transmission Access Charges, July 12 and August 10, 2000.

Before the State of New York Public Service Commission, *In the Matter of Customer Billing Arrangements*, Case 99-M-0631, Affidavit on behalf of New York State Electric and Gas Corporation, April 19, 2000 (with F. Graves).

Before the Federal Communications Commission, "An Economic Assessment of the Risks and Benefits of Direct Access to INTELSAT in the United States," Report filed *In the Matter of Direct Access to the INTELSAT System*, IB Docket No. 98-192, File No. 60-SAT-ISP-97, December 21, 1998 (with H. Houthakker and J. Green).

Before the Federal Communications Commission, "A Response to the Economists Inc. Study: Preliminary Competition Analysis of Proposed Lockheed Martin/COMSAT Transaction," December 1998 (with C. Lapuerta).

Before the United States District Court, Central District of California, Expert Report of *The Brattle Group* re: Contract Termination Damages; *Comsat Corporation v. The News Corporation, Limited, et al.*, July 1, 1998.

Before the Federal Communications Commission, "Response to Comments on Comsat's Reclassification Petition," File No. 60-SAT-ISP-97, July 7, 1997 (with H. Houthakker and W. Tye).

Before the Federal Communications Commission, "The Economic Basis for Reclassification of Comsat as a Non-Dominant Carrier," Report filed *In the Matter of Comsat Corporation Petition for Forbearance from Dominant Carrier Regulation and for Reclassification As a Non-Dominant Carrier*, April 24, 1997 (with H. Houthakker and W. Tye).

Before the Federal Communications Commission, "Competition in Transoceanic Switched Voice and Private Line Services to and from the U.S.: 1997 Update," Report filed *In the Matter of Comsat Corporation Petition for Forbearance from Dominant Carrier Regulation and for Reclassification As a Non-Dominant Carrier*, April 23, 1997 (with H. Houthakker and W. Tye).



Before the Federal Communications Commission, *Response to Statement of Professor Jerry A. Hausman*, in *re Hughes Communications, Inc.*, File Nos. 2-SAT-AL-97(11), *et al.*, December 19, 1996 (with W. Tye).

Before the Federal Communications Commission, *The Economic Implications of the Proposed Hughes-PanAmSat Transaction*, Written Statement in *re Hughes Communications, Inc.*, File Nos. 2-SAT-AL-97(11), *et al.*, December 2, 1996 (with W. Tye).

Before the Federal Communications Commission, “Competition in the Market for Trans-Oceanic Video Services to and from the U.S.,” Report filed *In the Matter of Comsat Corporation Petition for Partial Relief from the Current Regulatory Treatment of Comsat World Systems’ Switched Voice, Private Line, and Video and Audio Services*, Docket No. RM-7913, October 24, 1996, (with H. Houthakker and W. Tye).

Before the U.S. House of Representatives, Committee on Commerce, Subcommittee on Telecommunications and Finance, *Oversight Hearing on the Restructuring of the International Satellite Organizations*, Written Testimony, September 25, 1996.

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Before the State of New York Public Service Commission, *Fuel Switching and Demand Side Management*, Prepared Written Testimony on behalf of National Fuel Gas Distribution Company, Case Nos. 28223 and 29409, September 1992 (with D. Weinstein).

Mr. Pfeifenberger has also presented research findings related to mergers and network access matters to government and antitrust enforcement agencies, including the U.S. Department of Justice, the Merger Task Force of the European Community, the German Cartel Office, the German Ministry of Economics, and the White House National Economic Council.

## ARTICLES, REPORTS AND PRESENTATIONS

*A Comparison of PJM’s RPM with Alternative Energy and Capacity Market Designs*, Report prepared for PJM Interconnection LLC, September 2009 (with K. Spees and A. Schumacher).

*Assessment of a Maine ISA Structure as a Possible Alternative to ISO-NE Participation*, Report prepared for Central Maine Power Company and the Industrial Energy Consumer Group, May 2009 (with K. Belcher, J. Chang, and D. Hou).

*Review of PJM’s Reliability Pricing Model (RPM)*, Report prepared for PJM Interconnection LLC, June 30, 2008 (with S. Newell, R. Earle, A. Hajos, and M. Geronimo).

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“The Power of Five Percent,” *The Electricity Journal*, October 2007 (with A. Faruqui, R. Hledik, and S. Newell).

*Review of PJM’s Market Power Mitigation Practices in Comparison to Other Organized Electricity Markets*, Report prepared for PJM Interconnection LLC, September 14, 2007 (with J. Reitzes, P. Fox-Penner and others).

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“Valuing Demand-Response Benefits in Eastern PJM,” *Public Utilities Fortnightly*, March 2007 (with S. Newell and F. Felder).

“Financial Challenges of Rising Utility Costs and Capital Investment Needs,” 2006 NASUCA Annual Meeting, Miami, Florida, November 14, 2006 (with A. Schumacher).

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“Why Are Electricity Prices Increasing: An Industry-Wide Perspective,” prepared for The Edison Foundation, June 2006 (with G. Basheda, M. Chupka, P. Fox-Penner, and A. Schumacher).

“Understanding Utility Cost Drivers and Challenges Ahead,” *AESP Pricing Conference*, Chicago, May 17, 2006 (with A. Schumacher).

“Modeling Power Markets: Uses and Abuses of Locational Market Simulation Models,” *Energy*, Vol 2, 2006, *The Brattle Group* (with S. Newell).

“When Sparks Fly: Economic Issues in Complex Energy Contract Litigation,” *Energy*, Vol 1, 2006, *The Brattle Group* (with D. Murphy and G. Taylor).

*Innovative Regulatory Models to Address Environmental Compliance Costs in the Utility Industry*, Newsletter of the American Bar Association, Section on Environment, Energy, and Resources, pp. 3-6, October 2005 (with S. Newell).

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*Can Utilities Play on the Street? Issues in ROE and Capital Structure*, opening comments for panel discussion on “Traditional and Alternative Methods for Determining Return on Investment,” Financial Research Institute Conference, Columbia, Missouri, September 16, 2004.

“What is Reasonable? How to Benchmark Return on Equity (ROE) and Depreciation Expense in Utility Rate Cases,” *Public Utilities Fortnightly*, October 15, 2003, pp. 40-44 (with M. Jenkins).

“Efficiency as a Discovery Process: Why Enhanced Incentives Outperform Regulatory Mandates,” *The Electricity Journal*, January/February 2003, pp. 55-62 (with D. Weisman).

“Big City Bias: The Problem with Simple Rate Comparisons,” *Public Utilities Fortnightly*, December 2002, pp. 30-24 (with M. Jenkins).

*Power Market Design in Europe: The Experience in the U.K. and Scandinavia*, Energy Bar Association, 56<sup>th</sup> Annual Meeting, Washington, DC, April 18, 2002 (with C. Lapuerta).

“REx Incentives: PBR Choices that Reflect Firms’ Performance Expectations,” *The Electricity Journal*, November 2001, pp. 44-51 (with P. Carpenter and P. Liu).

“The State of Performance-Based Regulation in the U.S. Electric Utility Industry,” *The Electricity Journal*, October 2001, pp. 71-79 (with D. Sappington, P. Hanser and G. Basheda).

“Eine wettbewerbliche Analyse beabsichtigter Zusammenschlüsse in der Deutschen Elektrizitätswirtschaft” (A Competitive Analysis of Proposed Mergers in the German Power Industry),” presentations to the German Cartel Office and the Merger Task Force of the European Commissions, February 2000.

“Transmission Access, Episode II: FERC’s Journey Has Only Begun,” *Public Utilities Fortnightly*, August 1999, pp. 44-48 (with P. Fox-Penner).

“Netzzugang in Deutschland im internationalen Vergleich,” (International Benchmarking of German Transmission Access) *Energiewirtschaftliche Tagesfragen*, July 1999 (with C. Lapuerta, W. Pfaffenberger, and J. Weiss).

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*Distributed Generation: Threats and Opportunities*, Electric Distribution Conference, Denver Colorado, April 28-29, 1998 (with P. Hanser and D. Chodorow).

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*Does Generation Divestiture Mitigate Market Power*, 1998 Energy Futures Forum, Woodbridge, NJ, April 23, 1998.

*Joint Response to the Satellite Users’ Coalition “Analysis of the Privatization of the Intergovernmental Satellite Organizations as Proposed in H.R. 1872 and S. 1382”*, March 9, 1998 (with H. Houthakker, M. Schwartz, W. Tye, and A. Maniatis).

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*An Economic Assessment of H.R. 1872* (analyzing the impact of a bill attempting to restructure the international satellite organizations), September 26, 1997 (with H. Houthakker and A. Maniatis).

“Considerations in the Design of ISO and Power Exchange Protocols: Procurement Bidding and Market Rules,” *Electric Utility Consultants Bulk Power Markets Conference*, Vail, Colorado, June 4, 1997 (with F. Graves).

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“Handle with Care: A Primer on Incentive Regulation,” *Energy Policy*, Vol 13, No. 8, September 1995 (with W. Tye).

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“The Not-So-Strange Economics of Stranded Investments,” *The Electricity Journal*, Reply, November 1994 (with W. Tye).

“Purchased Power: Hidden Costs or Benefits?,” *The Electricity Journal*, September 1994 (with S. Johnson, L. Kolbe, and D. Weinstein).

“Pricing Transmission and Power in the Era of Retail Competition,” Electric Utility Consultants: Retail Wheeling Conference, June 1994 (with F. Graves).

“The Enigma of Stigma: The Case of the Industrial Excess Landfill,” *Toxics Law Reporter*, Bureau of National Affairs, May 18, 1994 (with K. Wise).

“Banking on NUG Reliability: Do Leveraged Capital Structures Threaten Reliability?,” *Fortnightly*, May 15, 1994 (with S. Johnson and L. Kolbe).

“Valuation and Renegotiation of Purchased Power Contracts,” *The Brattle Group Presentation*, May 2, 1994 (with others).

“Still More on Purchased Power,” *The Electricity Journal*, Reply, February 1994 (with S. Johnson).

“Purchased Power Risks and Rewards,” Presentation at the AGA/EEI Budgeting and Financial Forecasting Committee Meeting, February 28, 1994 (with L. Kolbe and S. Johnson)

“Evaluation of Demand-Side Management Programs,” *Capital Budgeting Notebook*, Electric Power Research Institute, Chapter 12, 1994 (with others).

“Purchased Power Risks and Rewards,” Report for the *Edison Electric Institute*, Fall 1993 (with S. Johnson and L. Kolbe).

“Purchased Power Incentives,” *The Electricity Journal*, Reply, November, 1993 (with S. Johnson).

“It's Time For A Market-based Approach to Demand-side Management,” PowerGen '93 Conference, November 1993 (with L. Kolbe).

“Incentive Regulation: Dos and Don'ts,” Electric Utility Consultants: Strategic Utility Planning Conference, June 1993 (with W. Tye).

“It's Time For A Market-based Approach to DSM,” *The Electricity Journal*, May, 1993 (with L. Kolbe, A. Maniatis, and D. Weinstein).

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*Development of Sectoral Energy Requirements in the Japanese Economy: 1970 to 1980*, Master's Project in International Economics, Brandeis University, May 1991.

“The Costs of Hydropower: Evidence on Learning-by-Doing, Economies of Scale, and Resource Constraints in Austria,” *International Journal of Energy Research*, Vol. 14, pp. 893-899, 1990 (with F. Wirl).

“Eine ökonomische Analyse alternativer Kraftwerkstypen” (an economic analysis of power supply alternatives), *Girozentrale Quartalshefte*, pp. 21-30, January 1990 (with F. Wirl).

“Eine einfache Charakterisierung der saisonalen Elektrizitätsnachfrage” (a simple characterization of seasonal electricity demand), *Österreichische Zeitschrift für Elektrizitätswirtschaft*, March 1990. *Kraftwerksausbauplanung mit Linearen Optimierungsmodellen am Beispiel Österreichs* (power systems expansion planning for Austria with mixed-integer and linear-programming models), Master’s Thesis, Institute of Energy Economics, University of Technology, Vienna, May 1989.

Table 1 : Preliminary Ranking of States by Factors Mitigating Regulatory Lag

State	Fuel Adjustment Clause Factors		Time Needed for Rate Case	Temporary or Interim Rates	Type of Test Year (Historic versus Forecast)	Construction Work in Progress (CWIP) Allowed in Rate Base	Overall Score for State		% of Maximum Possible Score
	Adjustment Frequency	Type of FAC: Historic versus Projected					Traditionally Regulated (Out of 6)	Restructured (Out of 4)	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
NE	N/A	N/A	0.0	0.0	0.0	0.0	-	0.0	N/A
MN	1.0	1.0	0.5	1.0	1.0	0.5	5.0	-	83%
ND	1.0	0.5	1.0	1.0	1.0	0.5	5.0	-	83%
AL	1.0	1.0	0.5	0.0	1.0	1.0	4.5	-	75%
HI	1.0	1.0	0.5	1.0	1.0	0.0	4.5	-	75%
MS	1.0	1.0	1.0	0.0	1.0	0.5	4.5	-	75%
FL	0.0	1.0	0.5	1.0	1.0	0.5	4.0	-	67%
TX	N/A	N/A	1.0	1.0	0.0	0.5	-	2.5	63%
GA	0.0	1.0	1.0	0.0	1.0	0.5	3.5	-	58%
IA	1.0	1.0	0.0	1.0	0.0	0.5	3.5	-	58%
KY	1.0	0.5	0.0	0.0	1.0	1.0	3.5	-	58%
MT	1.0	1.0	0.5	1.0	0.0	0.0	3.5	-	58%
TN	1.0	1.0	0.5	0.0	0.0	1.0	3.5	-	58%
CO	1.0	1.0	0.5	0.0	0.0	0.5	3.0	-	50%
CT	N/A	N/A	1.0	0.0	1.0	0.0	-	2.0	50%
MD	N/A	N/A	0.5	0.0	0.5	1.0	-	2.0	50%
OK	0.5	0.5	1.0	0.0	0.5	0.5	3.0	-	50%
PA	N/A	N/A	0.5	0.0	1.0	0.5	-	2.0	50%
UT	0.5	0.0	0.5	1.0	1.0	0.0	3.0	-	50%
VT	1.0	0.5	0.5	0.0	0.5	0.5	3.0	-	50%
VA	0.0	1.0	1.0	0.0	0.0	1.0	3.0	-	50%
WI	0.5	1.0	0.0	0.0	1.0	0.5	3.0	-	50%
IN	1.0	1.0	0.0	0.0	0.0	0.5	2.5	-	42%
KS	0.5	1.0	0.5	0.0	0.0	0.5	2.5	-	42%
NV	1.0	0.5	0.5	0.0	0.0	0.5	2.5	-	42%
OR	0.0	1.0	0.5	0.0	1.0	0.0	2.5	-	42%
CA	N/A	N/A	0.0	0.0	1.0	0.5	-	1.5	38%
MI	N/A	N/A	0.0	0.0	1.0	0.5	-	1.5	38%
NJ	N/A	N/A	0.5	0.0	0.5	0.5	-	1.5	38%
NY	N/A	N/A	0.0	0.0	1.0	0.5	-	1.5	38%
OH	N/A	N/A	0.5	0.0	0.5	0.5	-	1.5	38%
RI	N/A	N/A	1.0	0.0	0.5	0.0	-	1.5	38%
AK	1.0	1.0	0.0	0.0	0.0	0.0	2.0	-	33%
AR	0.0	1.0	0.0	0.0	0.5	0.5	2.0	-	33%
ID	0.0	1.0	0.5	0.0	0.5	0.0	2.0	-	33%
LA	1.0	0.5	0.0	0.0	0.0	0.5	2.0	-	33%
NC	0.0	1.0	0.5	0.0	0.0	0.5	2.0	-	33%
SC	0.0	1.0	0.5	0.0	0.0	0.5	2.0	-	33%
WV	0.0	1.0	0.5	0.0	0.0	0.5	2.0	-	33%
AZ	0.0	1.0	0.0	0.0	0.0	0.5	1.5	-	25%
DE	N/A	N/A	0.5	0.0	0.0	0.5	-	1.0	25%
DC	N/A	N/A	0.0	0.0	0.5	0.5	-	1.0	25%
IL	N/A	N/A	0.0	0.0	0.5	0.5	-	1.0	25%
MA	N/A	N/A	1.0	0.0	0.0	0.0	-	1.0	25%
NM	0.5	0.5	0.0	0.0	0.0	0.5	1.5	-	25%
SD	1.0	0.5	0.0	0.0	0.0	0.0	1.5	-	25%
WA	0.0	1.0	0.0	0.0	0.0	0.5	1.5	-	25%
WY	0.0	0.5	0.0	0.0	1.0	0.0	1.5	-	25%
MO	0.5	0.5	0.0	0.0	0.0	0.0	1.0	-	17%
ME	N/A	N/A	0.5	0.0	0.0	0.0	-	0.5	13%
NH	N/A	N/A	0.0	0.0	0.0	0.0	-	0.0	0%
<b>Average</b>									<b>43%</b>
<b>Top Quartile</b>									<b>50%</b>
<b>Median</b>									<b>40%</b>
<b>Bottom Quartile</b>									<b>33%</b>

## Sources:

The Brattle Group primary research, Regulatory Research Associates' Commission Profiles, NARUC Compilation of Utility Regulatory Policy (1995-1996), Edison Electric Institute, and Nuclear Energy Institute.

## Notes:

- [1]: Frequency of FAC (for largest utility in state): 1 = monthly or quarterly, 0.5 = semiannually or varies, and 0 = annually. "N/A" indicates that a state's utilities are not traditionally regulated.
- [2]: FAC rates (for largest utility in state): 1 = based on projected costs, 0.5 = based on historic costs, and 0 = no FAC. "N/A" indicates that a state's utilities are not traditionally regulated.
- [3]: Maximum length of time between filing and decision: 1 = 6 months or less, 0.5 = 7 to 9 months, and 0 = no requirement or 10 months or more.
- [4]: Use of interim rates: 1 = interim rates used and 0 = interim rates only used in emergencies.
- [5]: Basis for revenue requirement test year: 1 = forecast, 0.5 = hybrid, and 0 = historic.
- [6]: CWIP in rate base: 1 = broadly allowed, 0.5 = case specific or limited, and 0 = not allowed.
- [7]: Sum of [1] through [6] for states with utilities that are traditionally regulated. Does not include Nebraska, a state without regulated investor-owned utilities.
- [8]: Sum of [1] through [6] for states with utilities that are not traditionally regulated. Includes Nebraska, a state without regulated investor-owned utilities.
- [9]: State ranking divided by maximum possible ranking (6 for states with utilities that are traditionally regulated, or 4 for states with utilities that are not traditionally regulated).

**Table 2 : Fuel Adjustment Clause Characteristics**

<b>State</b>	<b>Adjustment Frequency</b>	<b>Historical or Projected Costs</b>
Idaho	Annually	Historical (Avista) and Projected (Idaho Power)
Washington	Annually	Historical (Avista) and Projected (Puget)
Wyoming	Annually	Historical
Colorado	Twice per year (Aquila) and quarterly (Public Service Co)	Historical (Aquila) and Projected (Public Service Co)
New Mexico	Twice per year (Public Service Co) and monthly (El Paso, Southwestern)	Historical
Oklahoma	Varies	Historical
Kansas	Monthly (Kansas Gas & Electric, Westar), twice per year (Kansas City Board), and annually with quarterly updates and rate adjustments (Kansas City Power)	Projected
South Dakota	Annually (Black Hills), quarterly (NorthWestern), and monthly (Northern States)	Historical
North Dakota	Monthly	Historical
Minnesota	Monthly	Historical (Allete, Interstate Power, Otter Tail) and Projected (Northern States)
Iowa	Monthly	Projected
Arkansas	Annually	Projected
Louisiana	Monthly	Historical
Mississippi	Quarterly (Entergy) and annually (Mississippi Power)	Projected
Alabama	Quarterly	Projected
Tennessee	Monthly (Kingsport) and quarterly (TVA)	Historical (Kingsport) and projected (TVA)
Kentucky	Monthly	Historical
Indiana	Monthly	Projected
West Virginia	Annually	Projected
North Carolina	Annually	Projected
South Carolina	Annually	Projected
Florida	Annually	Projected
Georgia	Annually	Projected
Alaska	Quarterly (Anchorage) and twice per year (EL&P)	Projected
Hawaii	Monthly	Projected
Missouri	Twice Per Year	Historical
Wisconsin	Monthly, Varies	Historical (Consolidated, Superior) and Projected (Madison, Northern States, Wisconsin Electric, Wisconsin Power, Wisconsin Public Service)
Oregon	Annually	Projected
Nevada	Quarterly	Historical
Utah	N/A	N/A
Vermont	Quarterly	Historical
Montana	Monthly	Projected
Arizona	Annually (APS, UNS) and twice per year (SRP)	Projected
Virginia	Annually	Projected

**Sources and Notes:**

Information from Brattle Group primary research.

Does not include Nebraska, a state without regulated investor-owned utilities.



**Table 3 : Time Needed For Rate Case in States**

<b>Jurisdiction</b>	<b>Time to Issue Decision Once Case is Filed</b>
Alabama	7 months
Arizona	12 months
Arkansas	10 months
California	Ratesetting - 18 months; Adjudicatory - 12 months
Colorado	210 days
Connecticut	180 days max
Delaware	7 months
Washington D.C.	None, but 9 month 'target'
Florida	60 days - 8 months max
Georgia	6 months
Hawaii	9 months
Idaho	7 months - 9 months max
Illinois	11 months
Indiana	None, but 10 month 'target'
Iowa	10 months
Kansas	240 days - 260 days max
Kentucky	5 months - 10 months max
Louisiana	1 year
Maine	9 months
Maryland	210 days
Massachusetts	6 months
Michigan	None, but 12 month 'target'
Minnesota	8 months
Mississippi	120 days
Missouri	11 months
Montana	9 months
Nebraska	Too complex to summarize
Nevada	7 months
New Hampshire	6 months - 1 year max
New Jersey	8 months
New Mexico	10 months - 13 months max
New York	11 months
North Carolina	9 months
North Dakota	6 months
Ohio	275 days
Oklahoma	180 days
Oregon	6 months - 9 months max
Pennsylvania	7 months
Rhode Island	6 months
South Carolina	6 months & 5 days
South Dakota	6 months - 1 year max
Tennessee	9 months
Texas	150 days
Utah	240 days
Vermont	7 months
Virginia	150 days
Washington	10 months
West Virginia	270 days
Wisconsin	No limit, but typically 9 months - 12 months
Wyoming	10 months

*Sources and Notes:*

Regulatory Research Associates' Commission Profiles.

**Table 4 : Details Behind Temporary or Interim Rates**

<b>State</b>	<b>Temporary or Interim Rates</b>
<b>FL</b>	Interim increases are statutorily permitted and have been authorized, usually to become effective roughly three months after an initial filing is tendered. It is not necessary that the utility demonstrate emergency conditions in order to be permitted an interim hike. Interim increases are generally determined on the basis of the utility's achieved rate of return and cost of capital for the most recent 12-month period, utilizing the low end of the equity return range authorized in the company's previous rate case. Any interim increase is collected subject to refund.
<b>HI</b>	There is no statutory time limit within which a rate case must be completed. However, the PUC is legislatively required to "make every effort" to issue a decision within nine months following the filing date. Rate cases have typically taken well over a year to complete. State law calls for an interim increase to be implemented within one month after the expiration of the nine-month period to reflect any increase to which the PUC "believes the public utility is probably entitled," if the evidentiary hearing has been completed. If the evidentiary hearing has not been completed, a 30-day extension is permitted. Interim increases are subject to refund with interest. In almost all electric rate cases decided over the last 10 years, the PUC has authorized substantial interim rate increases. For a temporary, as opposed to an interim, rate increase to be authorized, utilities must satisfy certain "financial hardship" requirements.
<b>IA</b>	Utilities are permitted to implement interim rate increases, subject to refund, and in most rate cases, interim increases have been implemented. Such rate increase may be implemented with IUB approval, within 90 days after the date of filing of the request, based on previously established regulatory principles; or, such rate increase may be implemented without IUB approval, ten days after the date of filing of the request, with the utility filing a bond.
<b>MN</b>	Utilities are permitted to implement, upon PUC approval, interim rates 60 days after filing for a permanent rate increase, subject to refund, utilizing the return on equity (ROE) authorized in the company's previous case. Expenses included in interim rates must be of a "like nature and kind" to expenses included in final rates in the utility's previous case.
<b>MT</b>	The Commission has generally authorized interim rate changes, usually within two to four months after the date of filing.
<b>ND</b>	State law allows interim increases to be implemented within 60 days of the initial filing, subject to refund with interest. This provision is typically utilized in rate proceedings.
<b>TX</b>	Interim rate changes have rarely been sought. However, during a lengthy rate case for American Electric Power (AEP) subsidiary AEP Texas Central (TCC), that was decided in 2005, the PUC rejected requests by several parties that the company be required to implement an interim rate decrease (Final Report 8/18/05). By contrast, in its pending case, TCC was permitted to implement an interim increase due to extensive delays in the procedural schedule. In a recently completed case for Xcel Energy (XEL) subsidiary Southwestern Public Service (SWPS) the PUC allowed the company to implement the rate increase specified in a unanimous settlement on an interim basis, pending PUC consideration of the agreement.
<b>UT</b>	The PSC is permitted to grant an interim increase or order a decrease, subject to refund, during the pendency of a general rate proceeding. To secure an interim increase a utility "must present a compelling case without substantive opposition, that serious financial harm would result in the absence of an interim award." However, only a prima facie showing of the existence of overearnings is required to justify an interim rate decrease. The PSC has occasionally authorized interim rate increases.

*Sources and Notes:*

Regulatory Research Associates' Commission Profiles

**Table 5 : Regulatory Treatment in Electric Utility  
Rate Cases**

State	Forecast, Hybrid, or Historic Test Year
AL	Forecast
AK	Historic
AZ	Historic
AR	Hybrid
CA	Forecast
CO	Historic
CT	Forecast
DE	Historic
DC	Hybrid
FL	Forecast
GA	Forecast
HI	Forecast
ID	Hybrid
IL	Hybrid
IN	Historic
IA	Historic
KS	Historic
KY	Forecast
LA	Historic
ME	Historic
MD	Hybrid
MA	Historic
MI	Forecast
MN	Forecast
MS	Forecast
MO	Historic
MT	Historic
NE	N/A
NV	Historic
NH	Historic
NJ	Hybrid
NM	Historic
NY	Forecast
NC	Historic
ND	Forecast
OH	Hybrid
OK	Hybrid
OR	Forecast
PA	Forecast
RI	Hybrid
SC	Historic
SD	Historic
TN	N/A
TX	Historic
UT	Forecast
VT	Hybrid
VA	Historic
WA	Historic
WV	Historic
WI	Forecast
WY	Forecast

*Sources and Notes:*

NARUC Compilation of Utility Regulatory Policy (1995-1996), supplemented with recent Brattle Group interviews.

**Table 6 : U.S. Regulatory Jurisdictions That Allow Recovery of Financing Costs During Construction**  
(Based on NARUC Survey and Selected Additional Information)

Jurisdiction	CWIP Allowed in Ratebase from 1995-96 NARUC survey	Additional Information Collected	Scope of recovery of financing costs during construction
	[1]	[2]	[3]
FERC	-	50%-100% of transmission CWIP allowed in ratebase	Broadly allowed
AL	Full		Broadly allowed
AK	No		Not allowed
AZ	At commission's discretion		Case specific
AR	Only to extent it will be in service when new rates become effective	CWIP associated with projects completed during either the historic test year or the pro forma year are allowed in rate base	Limited
CA	Only for pollution control and RD&D projects as allowed by FERC		Limited
CO	Full/Partial	Colorado has allowed CWIP in rate base for specific investments on a case specific basis	Case specific
CT	Demonstrate negative cash flow	Prohibited by law	Not allowed
DE	Partial	Considered on a case-by-case basis	Case specific
DC	Only for pollution control	Only for pollution control	Limited
FL	Only when cash flow needed to maintain bond rating or where construction work not eligible for AFUDC	2006 and 2007 legislation allows cash return on CWIP for nuclear and integrated gasification combined-cycle power plants	Limited
GA	Treatment not uniform	Recent CWIP treatment for a Georgia Power nuclear power plant	Case specific
HI	No	No	Not allowed
ID	No, except some short term		Not allowed
IL	Yes	Only allowed for SO2 pollution control and water treatment plant	Limited
IN	Treatment not uniform		Case specific
IA	No	2002 legislation allows utilities to ask for ratemaking treatment determinations on a case specific basis, including CWIP in rate base	Case specific
KS	Partial	Recent legislation allows utilities to ask for ratemaking treatment determinations, including CWIP in rate base	Case specific
KY	Full/Partial	Virtually all CWIP allowed in rate base	Broadly allowed
LA	Full/Partial	In 2007, the LPSC created a detailed process for new nuclear plant certification and cost recovery, including CWIP recovery.	Limited
ME	Yes	Generally not permitted	Not allowed
MD	Full	CWIP included in rate base	Broadly allowed
MA	No		Not allowed
MI	Full	CWIP generally not permitted, except for pollution control	Limited
MN	Full	Allows return on CWIP for certain emission reduction and transmission projects	Limited
MS	Treatment not uniform		Case specific
MO	No	No	Not allowed
MT	No		Not allowed
NE	Short term	[4]	[4]
NV	Treatment not uniform	Permitted on a case-by-case basis	Case specific
NH	No	Prohibited by law	Not allowed
NJ	Treatment not uniform	Permitted on a case-by-case basis, generally only in cases of financial distress	Case specific
NM	Treatment not uniform		Case specific
NY	Yes, if not eligible for AFUDC; extraordinary for financial integrity	CWIP allowed in rate base when cash flow issues arise	Limited
NC	Partial	2007 legislation allows CWIP in rate base for nuclear plant	Limited
ND	Treatment not uniform	Allows CWIP in rate base for transmission facilities	Limited
OH	Partial	CWIP allowed in rate base during Market Development Period (i.e., transition to full competitive market)	Limited
OK	Partial	Generally allowed, although some conditions apply (e.g., CWIP approved if project goes into service within one year or if project replaces or improves existing plant)	Limited
OR	No - CWIP prohibited by statute		Not allowed
PA	Partial - non-revenue producing facilities; convert to/expand use of coal		Limited
RI	No		Not allowed
SC	Partial	CWIP allowed for coal or nuclear units that are 350 MW or larger and designed to be operated at capacity factor of at least 70%.	Limited
SD	No	Cash return on CWIP permitted by law, but yet to be permitted by commission	Not allowed
TN	[5]	CWIP can be included in rate base	Broadly allowed
TX	Partial, Extraordinary cases	Allowed if found necessary for utility financial integrity	Case specific
UT	Extraordinary cases	Not generally allowed	Not allowed
VT	Partial	Conditions apply	Limited
VA	Full	Reregulation legislation established option to obtain a rate recovery clause, including projected CWIP	Broadly allowed
WA	Allowed, but seldom	Costs of CWIP allowed in rate base to the extent the Commission deems reasonable	Case specific
WV	Partial	Some examples of CWIP allowed in rate base for pollution control	Limited
WI	Not included now, but return on rate base adjusted for CWIP cash return at various amounts - Case specific	On a case-by-basis, has allowed a return between 50% and 100% of CWIP for recent projects.	Case specific
WY	Generally no, with few exceptions		Not allowed

**Number of Jurisdictions Where CWIP Is Broadly Allowed in Rate Base:**

**6**

**Number of Jurisdictions Where CWIP Is Allowed in Rate Base on a Limited or Case Specific Basis:**

**31**

**Number of Jurisdictions Where CWIP Is Not Allowed in Rate Base:**

**14**

*Sources and Notes:*

[1]: NARUC Compilation of Utility Regulatory Policy, Table 196 (1995-1996).

[2]: Updates from Edison Electric Institute, Regulatory Research Associates, Nuclear Energy Institute, and state-specific research.

[3]: Classification based on information in [1] and [2]

[4]: Nebraska does not have any investor-owned utilities.

[5]: Not included in NARUC survey.