

EXHIBIT SC-10 (WS-1)

William Steinhurst

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA.

Senior Consultant, July 2003 to Present

Consulting services to state and provincial energy regulators and public advocates, state provincial and national energy departments, and non-governmental organizations on regulatory policy, power supply procurement, electric industry restructuring, portfolio management, rate setting and rate design, economic impacts of efficiency and renewable generation programs, and other utility and energy topics. Expert witness services and litigation advice. Co-authored reports, journal articles and conference presentations on portfolio management, energy efficiency programs, and electric reliability.

Vermont Department of Public Service, Montpelier, VT.

Director for Regulated Utility Planning, 1986-2003

Preparation of long range policy plans in the areas of electric utilities, energy and telecommunications, including oversight of research, modeling, public input processes, policy analysis and writing. Development of policy positions and drafting of legislation and rules concerning utility resource planning, power supply acquisition, generation and transmission permitting, environmental costing, energy efficiency and alternative generation, utility restructuring and retail choice, distributed utility planning, rate setting and rate design, mergers, financing and acquisitions, decision analysis, power contract restructuring, Qualifying Facility contracts and permits, net metering, and other critical regulatory issues. Extensive expert testimony on those matters, as well as utility bankruptcy, prudence reviews, and critical utility policy matters. Extensive legislative testimony.

Planning Econometrician, 1981-1986

Energy demand forecasting, economic and demographic projections, economic and policy impact analysis, avoided cost estimates, and other quantitative analysis for utility and energy policy making. Development of State's basic policies regarding least cost planning and resource selection, including methods for evaluation of and program design for generation, transmission and demand-side options. Implementation of utility energy efficiency program requirements.

Vermont Agency of Human Services, Montpelier, VT.

Director of Planning, 1979-1981

Vermont Department of Social and Rehabilitation Services, Waterbury, VT.

Director of Planning and Evaluation, 1977-1979

Acting Deputy Commissioner, 1977

Vermont Department of Corrections, Montpelier, VT.

Director of Planning and Research, 1974-1977

Chief of Research and Statistics, 1973-1974

Pre-2004 Energy Consulting

Illinois Energy Office, 1986.
Massachusetts Executive Office of Energy Resources, 1986.
Northern Technology, Inc., Gorham, NH, 1983-1985.
James River Corporation, Green Bay, WI, 1985.
Newfoundland Department of Natural Resources, 1995

Teaching

University of Vermont, Burlington, Vt., 1977 to 1989
Adelphi University, Garden City, N.Y., 1980 to 1988
University of N. H., Complex Systems Ctr., Grad. Studies Comm., 1992-1994
Institute of International Education, Least Cost Planning Seminar, 1999
Community College of Vermont, 2002-2004

Miscellaneous

National Science Foundation Undergraduate Research Grant, 1965.
Wesleyan University Astronomy Prize, 1967.
Association for Criminal Justice Research (Northeast/Canada), Director, 1973 to 1981,
Secretary/Treas., 1973 to 1980.
University of Vermont Graduate Award in Statistics, May, 1980.
Contributing Editor, Current Index to Statistics, 1976-1985.
Chair, Session on Energy Economics, New England Business and Economics Association
Annual Meeting, 1983.
Member, Intl. System Dynamics Soc., Tau Beta Pi.
Northeast International Committee on Energy, New England Governors' Conference/Eastern Canadian Premieres,
various periods, 1986 to 2003
Director, Vermont Girl Scout Council, 1989-1991, 2000-2008; Secy., 1991-1997
3rd Vice President, Girl Scouts of the Green and White Mountains, 2009 to date
Editor, Intl. System Dynamics Soc. Bibliography, 1990-
Advisory Group Member, New England Project, MIT Analysis Group for Regional
Electricity Alternatives, 1991-1995.
Chair, Steering Committee & Modeling Subcommittee, New England Governors Conf.
Regional Energy Planning Project, 1991-1995.
Member, Montpelier School System Technology Steering Committee and Montpelier
High School Technology Committee, 1992-1993.
Reviewer, Vermont Experimental Program to Stimulate Competitive Research, 1993-
Invited Speaker, 3rd Intl. Conf. on Externality Costs, Ladenburg, FDR, 1995.
Member, Steering Committee, New England Governors Conference, Restructuring/
Environmentally Sustainable Technologies Project, 1996-1997
U. S. DOE Distributed Generation Collaborative, 2000-2003
Justice of the Peace, Montpelier, Vermont, 2007-

EDUCATION

Degrees

B.A., Physics, Wesleyan University, Middletown, CT, 1970
M.S., Statistics, University of Vermont, Burlington, VT, 1980
Ph.D., Mechanical Engineering, University of Vermont, Burlington, VT, 1988

Continuing Education

Seminar in Electricity and Telecommunications Demand, 1981
Advanced Workshop in Regulation and Public Utility Economics, June, 1982 and
June, 1983, Rutgers University
Transmission Reliability Assessment, Power Technologies, Inc., 1986
Regional Forecasting and Simulation Modeling, January, 1991, U. Massachusetts-Amherst

TESTIMONY and AFFIDAVITS

Vermont Public Service Board

On behalf of the Vermont Department of Public Service:

Docket 4661 - Green Mountain Power Rate Increase
Dockets 5009/5112 - Vt. Electric Coop. Rate Increase
Dockets 5108/5109 - Vt. Marble Co. Small Power Rate
Docket 5133 - Moretown Hydro Energy Co. Small Power Rate
Docket 5202 - VPPSA Refinancing
Docket 5248 - DPS Ontario Hydro Power Purchase
Docket 5270 - Least Cost Planning and Demand-Side Management
Docket 5270-GMP-1 - Highgate Apartments Fuel Switching
Docket 5270-CV-1&3 - Demand-Side Management Preapproval and Ratemaking Principles
Docket 5270-CV-4 - IRP
Docket 5270-VGS-1 - Demand-Side Management Preapproval
Docket 5270-WEC-1 - Demand-Side Management Preapproval
Dockets 5270-BRTN-1, 5270-CUC-3, 5270-HDPK-1, 5270-JHNS-1, 5270-JKSN-1,
5270-LDLW-1, 5270-LYND-1, 5270-MRSV-1, 5270-ORLN-1, 5270-RDSB-1,
5270-ROCH-1, 5270-STOW-1, 5270-SWNT-1, 5270-VMC-1 - IRP's
Docket 5270-VGS-2 - Demand-Side Management Preapproval
Docket 5277 - DPS Ontario Hydro Transactions Agreement
Docket 5330A - Hydro Quebec Power Purchase
Docket 5330E - Hydro Quebec Power Purchase, Waiver and Amendment
Docket 5372 - CVPSC Rate Increase
Docket 5491 - CVPSC Rate Increase
Docket 5630/32 - VEC Debt Restructuring & Rate Increase
Docket 5634 - NET Toll Dialing Plan
Docket 5638 - CVPSC Mack Molding*
Docket 5664 - EPACT Standards
Docket 5810/11/12 - VEC Debt Restructuring & Rate Increase
Docket 5825 - Ludlow IRP - externalities
Docket 5826 - Vermont Marble Electric Division - IRP - externalities

Docket 5832 - Lyndonville IRP - externalities
Docket 5841/5859 - Citizens Utilities Prudence Review & Revocation Petition
Docket 5854 - Electric Restructuring*
Docket 5857 - GMP Rate Increase*
Docket 5971 - VEC Bankruptcy Reorganization*
Docket 5980 - Proposal for Statewide Efficiency Utility
Docket 5983 - GMP Rate Increase (HQ Issues)
Docket 6018 - CVPSC Rate Increase (HQ Issues)
Docket 6107 - GMP Rate Increase (HQ Issues)
Docket 6140 - Electric Industry Restructuring (various presentations)*
Docket 6033/6053/6110/6142/6158/6326/6327/6371/6462/6464 - various municipal electric rate increases*
Docket 6270 - Qualifying facility contract reform
Docket 6290 - Distributed Generation*
Docket 6300 - Sale of Vermont Yankee
Docket 6330 - Petition of CVPSC and GMP on Restructuring (various presentations)*
Docket 6149/6315 - WEC electric rate increases* (HQ and Settlement Issues)
Docket 6460 - CVPSC Rate Increase (HQ Issues)
Docket 6495 - Vermont Gas Systems Rate Increase (Deferral Account and Hedging)
Docket 6565 - Various station service contracts
Docket 6596 - CUC rate Increase (HQ Issues)
Docket 6758 - Fourteen Utilities - Violations of Statutes on Special Contracts and Special Rates—Phases I & II
For consulting clients:
Docket 6958 - Green Mountain Power Rate Design - for AARP
Docket 6958 - Green Mountain Power Rate Design - for Conservation Law Foundation
Docket 6958 - Green Mountain Power Rate Design - for Conservation Law Foundation
Docket 7085 – CVPS Street Lighting Tariff – for Village of Woodstock
Docket 7175 - Green Mountain Power Rate Design – for Conservation Law Foundation and AARP
Docket 7176 - Green Mountain Power Alternative Regulation Plan—for Conservation Law Foundation and AARP
Docket 7336 – CVPS Alternative Regulation Plan – for Conservation Law Foundation*
Docket 7466—Efficiency Utility Structure—for Conservation Law Foundation
Docket 7670—20 Utilities Petition to Purchase Power from Hydro Québec US— for Conservation Law Foundation

Vermont State Environmental Board

Docket 5W0584-EB - Developers Diversified Land Use Permit

Federal Energy Regulatory Commission

Docket Nos. ER95-1586-000 and EL96-17-000 - Citizens Utilities Company **

California Public Utilities Commission

Multi-Stakeholder Study of Alternatives to the Mohave Generating Plant Pursuant to CPUC Decision 04-12-016 - for Southern California Edison (February 2006) *

R.06-02-013 – Long Term Procurement Plans of PG&E, SCE and SDG&E&E – for the Division of Ratepayer Advocates (March 2007)

Connecticut Department of Public Utility Control

Docket No. 03-07-16 - Alternative Transitional Standard Offer (live testimony Dec. 2004, prefiled comments Jan. 2003) *

Delaware Public Service Commission

Docket No. 04-391 – Standard Offer Service – for the Commission Staff (live testimony October 2006)

District of Columbia Public Service Commission

Formal Case 1047 – Investigation into the Structure of the Procurement Process for Standard Offer Service – for the District Office of People’s Counsel (June 2006 to date) **

Florida Public Service Commission

Dockets 080407 through 080413-EG – Commission Review of Numeric Conservation Goals – for the Southern Alliance for Clean Energy and the Natural Resources Defense Council (August 2009)

Illinois Commerce Commission

Docket No. 05-0159 - Commonwealth Edison Basic Utility Service Procurement

Docket No. 05-0160, 0161 and 0162 - Ameren CILCO, AmerenCIPS, and AmerenIP - Basic Utility Service Procurement

Indiana Utility Regulatory Commission

CAUSE NO. 42598 - Vectren North - Gas cost rate making mechanism and demand side management programs (Sept. 2004)

CAUSE NO. 42612 - Public Service of Indiana - demand side management programs (Sept. 2004)

Massachusetts Department of Public Utilities

Docket 07-050 – Investigation into Rate Structures that will Promote Efficient Deployment of Demand Resources – for The Energy Consortium (June 2007) *

Mississippi Public Service Commission

Docket 2008-AD-158 – Proceeding to Review Statewide Electric Generation Needs – for The Sierra Club (June 2008)

Docket 2008-AD-477— Docket to Consider Standards Established by the Energy Independence and Security Act of 2007, Section 111(d) of Public Utility Regulatory Policy Act (16 U.S.C. § 2621)—for The Sierra Club (November 2009) *

New Hampshire Public Utilities Commission

Docket DE 07-064 – Revenue Decoupling Investigation – for Conservation Law Foundation (May 2007 to date) *

New Mexico Public Regulation Commission

Case No. 10-00086-UT – Public Service of New Mexico Rate Case — for New Energy Economy (May 2011)

Ohio Public Utilities Commission

Restructuring Roundtable – System Benefit Charges - Commission workshop presenter *

Case No. 09-906-EL-SSO—Competitive Bidding Process—for Ohio Consumers’ Counsel (December 2009)

Oklahoma Corporation Commission

Cause No. RM 2007-007 – Demand Side Management Rulemaking – for The Sierra Club and the Oklahoma Sustainability Network (May 2008) *

South Carolina Public Service Commission

DOCKET NO. 2009-261-E—SCE&G DSM filing—for Southern Environmental Law Center and the South Carolina Coastal Conservation League (January 2010) (testimony filed—settlement pending)

U.S. District Court for the District of Vermont

Civ. No. 2:03-cv-279 – Circumferential Highway Impact Analysis – for Vermont Public Interest Research Group, Inc., Friends of the Earth, Inc., Conservation Law Foundation, and The Sierra Club (January 2004) **

Virginia State Corporation Commission

Docket # PUE-2009-00023 – Conservation and demand response targets – the Southern Environmental Law Center, Appalachian Voices, Chesapeake Climate Action Network and the Virginia Chapter of the Sierra Club (September 2009)

Docket # PUE-2009-00081 – Demand Side Management Program Approvals – the Southern Environmental Law Center, Appalachian Voices, Chesapeake Climate Action Network and the Virginia Chapter of the Sierra Club (December 2009)

Docket # PUE-2009-00096 – Dominion IRP – the Southern Environmental Law Center, Appalachian Voices, Chesapeake Climate Action Network and the Virginia Chapter of the Sierra Club (February 2010)

Docket # PUE-2009-00097 – APCo IRP – the Southern Environmental Law Center, Appalachian Voices, Chesapeake Climate Action Network and the Virginia Chapter of the Sierra Club (March 2010) (testimony filed pending hearing)

Wyoming Public Service Commission

Docket No. 20000-384-ER-10 – Rocky Mountain Power Rate Case – Powder River Basin Resource Council (April 2011)

* No prefiled testimony

** Affidavit only

PUBLICATIONS

Allen, R., V. L. McCarren and W. Steinhurst. *Vermont Telecommunications Plan: Final Draft and Final*. Vt. DPS, 1992.

Backus, G., J. Amlin, W. Steinhurst and P. Cross. *Champlain Pipeline Project: Energy and Economic Systems – Assessment*. Vt. DPS, 1989.

Bartels, C., R. Squires, and W. Steinhurst. *Electric Power Supply in Vermont*. Vt. DPS, 1983.

Biewald, B, C. Chen, A. Sommer, W. Steinhurst and D. E. White. *Comments on the RPS Cost Analyses of the Joint Utilities and the DPS Staff*. Synapse Energy Economics report for Renewable Energy Technology and Environment Coalition. September 19, 2003.

Biewald, B., Woolf, T., Roschelle, A., & Steinhurst, W. (2003) *Portfolio Management: How to Procure Electricity Resources to Provide Reliable, Low-Cost, and Efficient Electricity Services to All Retail Customers*. Synapse Energy Economics report for NARUC. October 10, 2003.

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- Blomberg, L., B. Hausauer, and W. Steinhurst, et al., *Fueling Vermont's Future: Comprehensive Energy Plan and Greenhouse Gas Action Plan: Public Review Draft*. Vt. DPS, 1997 and *Final*, 1998.
- Copp, L., W. Steinhurst, et al. *Electric Power Issues in Vermont*. Vt. DPS, 1982.
- *Electric Power in Vermont: Statistical Sourcebook*. Vt. DPS, 1982.
- *Electric Power in Vermont: Twenty-Year Plan*. Vt. DPS, 1983.
- Copeland, R. and W. Steinhurst. *Private Sector Day Care Rates*. Vt. Dept. of SRS, 1979.
- Huffman, B., W. Steinhurst, et al., *Energy Use in Vermont and the Public Interest*. Vt. DPS, 1984.
- Parker, S., & Steinhurst, W. (2004). *How To Deliver the (Efficiency) Goods: Why an Independent Third Party Works Best and How To Make Sure It Works Well*. Synapse Energy Economics, Inc.
- Roschelle, A., Steinhurst, W., Peterson, P., & Biewald, B. (2004). Procuring Default Service: Relationships between Contract Duration and Contract Price (pp. 15). ME PUC. On behalf of ME Office of Public Advocate. May 21, 2004.
- Roschelle, A., Steinhurst, W., Peterson, P., & Biewald, B. (2004). *Long Term Power Contracts: The Art of the Deal*. Public Utilities Fortnightly (August), 56-74.
- Roschelle, A., & Steinhurst, W. (forthcoming). *Best Practices in Procurement of Default Electric Service: A Portfolio Management Approach*. Electricity J.
- Schwartz, L., and W. Steinhurst. Is it smart if it's not clean? Questions Regulators Can Ask About Smart Grid and Energy Efficiency, Part one: Strategies for utility distribution systems. Regulatory Assistance Project *Issueletter* prepared for U.S. Environmental Protection Agency. May 2010.
- Shapiro, W., W. Steinhurst, et al. *Vermont Telecommunications Plan: Final Draft*. Vt. DPS, Aug. 1996 and *Final*, Dec. 1996.
- *Vermont Telecommunications Plan: Final Draft*. Vt. DPS, 1999 and *Final*, 2000.
- Steinhurst, W., *Hypothesis Tests for Parole Survival Analysis*. Masters thesis, University of Vermont, May, 1980.
- *Residential Price Elasticity of Electric Demand in the Northeast*, Vt. DPS, 1982.
- *Long Range Forecast of Electric Loads for Vermont*. Vt. DPS, 1983.
- *Electricity Conservation in Vermont*. Vt. DPS, 1983.
- *Twenty Year Electric Plan: Public Review Draft*. Vt. DPS, 1987, and *Final*, 1988.
- *Twenty Year Electric Plan: Public Review Draft*. Vt. DPS, Mar. 1994, and *Final*, Dec. 1994.
- *On Some Aspects of the Thermoplastic in Engineering*. Ph.D. Dissertation. Univ. of Vermont, 1988.
- *Electricity at a Glance*. National Regulatory Research Inst., 2008.
- Steinhurst, W. (August 6, 2004). *Social Priorities under Restructuring: Coordinated and Comprehensive Delivery*. Paper presented at the Standard Offer Service Conference, Wilmington, DE.
- , et al. *Vermont Comprehensive Energy Plan*. Vt. DPS, 1991.

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- , et al. "Electric System benefits of clean Energy." Ch. 3 in U.S. Environmental Protection Administration, *Assessing the Multiple Benefits of Clean Energy: A Resource for States*. Feb. 2010.
- , R. Allen, et al. *Shutdown Assessment of the Vermont Yankee Nuclear Power Facility: Interim Report*. Vt. DPS, 1987.
- , R. Allen, et al. *Shutdown Assessment of the Vermont Yankee Nuclear Power Facility*. Vt. DPS, 1988.
- , et al. *A Field Assessment of the Vermont Low-Income Weatherization Program*. Vt. DPS, 1990
- , et al. *Vermont Comprehensive Energy Plan*. Vt. DPS, 1991.
- , et al. *Vermont Government 2000 Conference Report*. 1989.
- Steinhurst, W., Woolf, T., & Roschelle, A. (2004). *Energy Efficiency: Still an Cost-Effective Resource Option*. Paper presented at the USAEE/IAEE Conference, Washington, D.C.
- Steinhurst, W., Chernick, P., Woolf, T., Plunkett, J., & Chen, C. (2003). OCC Comments on Alternative Transitional Standard Offers (pp. 58). CT DPUC Docket 03-07-16 on behalf of CT OCC.
- and D. Lamont. *Building Energy Code Study*. Vt. DPS, 1985.
- and D. Lamont. *Guide to Evaluating Energy Conservation Opportunities*. Vt. DPS, 1985.
- and B. Patterson. *Weeks School Recidivism Study*. Vt. Corrections Dept., 1976.
- and N Perrin. *1977-78 High School Survey: Patterns of Substance Use*. Vt. Dept. of SRS, 1979.
- , N. Perrin, and A. Jette. *Running in the SRS Juvenile System: 1975 - 1979*. Vt. Det. of SRS, 1979.
- and T. Weaver. *Long Range Forecast of Electric Loads for Vermont*. Vt. DPS, 1986.
- Stoneman, K., and W. Steinhurst. *Comprehensive Proposal for Corrections in Vermont*. Vt. Corrections Dept., 1972.
- von Turkovich, B., and W. Steinhurst. "Plastic Flow Localization and Instability in Metal Processing." *Proc. 14th N. Amer. Manuf. Res. Conf.*, Minneapolis, May, 1986, pp. 340-347.
- White, D., Roschelle, A., Peterson, P., Schlissel, D. A., Biewald, B., & Steinhurst, W. (forthcoming). *The 2003 Blackout: Solutions that Won't Cost a Fortune*. Electricity J.
- Wilson, D., J. O'Rourke, W. Steinhurst, et al. *Welfare Reform: A Vermont Perspective*. Vt. AHS, 1980.

ARTICLES AND PRESENTATIONS

- Andersen, D., G. Richardson, J. Rohrbaugh, S. Ratanawijitrasin, W. Steinhurst. "Group Model Building. *Proceedings of the International System Dynamics Conference*. Intl. System Dynamics Soc., 1992.
- Biewald, B., Chernick, P., and W. Steinhurst. *Environmental Externalities: Highways and Byways*. Proc. NARUC IRP Conf., Kalispell, MT, 1994.
- Hamilton, B., L. Milford, S. Parker and W. Steinhurst, "Fuel Switching in Vermont: Issues and Experiences." *Proc. of ACEEE 1992 Summer Study on Energy Efficiency in Buildings*, 12 pp.
- Hogan, C., and W. Steinhurst. "Managing Change in Corrections." *Federal Probation*, June, 1976.

Steinhurst, W., "Hypothesis Tests for Limited Failure Survival Distributions." *Proc. Social Statistics Section*, American Statistical Association, 1980, pp. 521 - 524.

----- "Hypothesis Tests for Parole Survival Analysis." *Evaluation Review*, 5, 699-711 (1981).

----- "Don't Throw Out the Baby: Some Design Requirements for Federalism Reform." *New England Journal of Human Services*, 1, 41 - 45 (1981).

----- "Environmental Externalities: Analysis and Advocacy." *Proc. 3rd Intl. Conf. on Externality Costs*, Springer-Verlag: Berlin.

----- and G. Backus. "Application of System Dynamics to an Integrated Economic and Environmental Policy Assessment." In D. F. Andersen, et al., *System Dynamics '90, Proc. of the 1990 International System Dynamics Conf.*, Boston, MA., pp. 1060-1074.

----- and W. Merten. "Statistical Analysis of Thermal Shock Tests." *Statistics in Manufacturing*, S. G. Kapoor and M. R. Martinez, eds., ASME Proc., PED-9 (83), 51-56.

----- and W. Merten. "Statistical Analysis of Thermal Shock Tests." *J. of Engineering for Industry*.

----- and R. Samuels. *The Future of the Uniform Parole Reports Project: Proceedings of the ACJR-UPR Working Session*. Assoc. for Criminal Justice Research, 1978.

----- and R. Squires. *Electric Utility Cost of Service Projections for James River Corporation New England Mills: 1984 to 2000*. Northern Technology, Inc., Jefferson NH, 1985.

----- and B. von Turkovich. "Material Influences on Plastic Flow Localization and Instability in Metal Processing." *Proc. 2nd Intl. Conf. on Technology of Plasticity*, Stuttgart, 1987.

Resume dated March 2010.