



Synapse
Energy Economics, Inc.

**Statement In Support of The Cape Light Compact
Energy Efficiency Plan: 2007-2012**

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**On Behalf of
The Cape Light Compact**

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Attachment: Resume of Timothy Woolf

1. Introduction and Qualifications

This Statement accompanies the filing of the "Cape Light Compact Energy Efficiency Plan: 2007-2012 (the "Plan") with the Department of Telecommunications and Energy (the "DTE") pursuant to G.L. c. 164, sec.134(b) ("Section 134(b)"). The Cape Light Compact (the "Compact") has filed its Plan for certification by the DTE. The Compact's technical filing includes the Plan itself, this Statement, and a Report of the Cape Light Compact.

I am the Vice President of Synapse Energy Economics, Inc., a consulting firm specializing in electricity industry regulation, planning and restructuring. I have been working as a consultant to the Compact since 1998 in designing and implementing its energy efficiency programs. My resume is attached to this statement.

I am the primary author of the Compact's Energy Efficiency Plan: Phase I, which was filed at the DTE in November 2000, and approved by the DTE in April 2001. Since then, I have been assisting the Compact with the planning, delivery and implementation of its energy efficiency programs. I am one of the lead authors for the Compact's Energy Efficiency Plan: Phase II, 2003-2007, which was approved by the DTE in October 2003. With oversight by Compact staff, I am one of the lead authors for the Compact's Energy Efficiency Plan: Phase III, which was approved by the DTE in November 2005. Again, with oversight by Compact staff, I am one of the lead authors for the 2007-2012 Plan. Oversight was provided by Compact staff members Maggie Downey, Kevin Galligan, Margaret Song, Debbie Fitton, John Burns and the Compact Energy Efficiency Committee.

The purpose of this statement is to provide an overview of the Plan, describe the modifications to the Plan relative to the Compact's prior energy efficiency plans, and explain how, in my professional opinion, it is consistent with state energy efficiency goals. Finally, I recommend that the Compact's Plan be certified by the DTE.

2. Overview of the Plan

Program Overview

The Compact's programs are designed to comply with state energy efficiency goals and policies. In general, the programs are structured according to customer types, as well as the types of electricity end-uses utilized by customers. In this way, the marketing and delivery of the programs can address the unique interests and market barriers of each customer type, as well as the unique opportunities and challenges of each end-use type.

The programs are broadly divided into three areas: (a) residential customers, (b) low-income customers, and (c) commercial and industrial customers (including municipal and government customers).

The Plan includes the following programs (*program enhancements as compared to the Phase III Plan are noted by italic text*):

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- Massachusetts New Homes with ENERGY STAR[®] Program, which provides home buyers, home builders, and construction trade allies with technical assistance and financial incentives to increase the efficiency of homes that are newly built or undergo major renovations. *Newly redesigned in 2007, the program includes enhanced rebates for participating homes that exceed residential energy code requirements.*
 - The Residential Massachusetts Home Energy Services Program (“MassSAVE”), which provides interested residential customers with a home energy audit and financial incentives for numerous electric and non-electric efficiency measures. *In 2007 the Compact is offering on a pilot basis for a limited time an increase in customer incentives from 50% to 75% of the value of eligible thermal measures for customers with household incomes between 60% and 80% of median income to assist customers who wish to implement cost-effective measures. In addition, in 2007, the Compact is adding a central air conditioning or heat pump tune-up offering to encourage customers to maximize the efficiency of their existing HVAC systems.*
 - The Residential ENERGY STAR Products and Services Program, which seeks to increase the availability and use of efficient lighting and appliances. This program is used to implement the Northeast Energy Efficiency Partnerships Appliance and Lighting (“NEEP”) initiative and other regional market transformation efforts.
 - Residential High Efficiency Central Air Conditioning Program (“MA COOL SMART” with ENERGY STAR). *Due to budget constraints, the Compact closed availability of this program in March 2006 and is not planning to participate in 2007. The Compact will re-evaluate participation in future program years.*
 - The Low-Income Single Family Program, which provides low-income customers in single-family dwellings with assistance in purchasing and installing efficient lighting, appliances, and weatherization measures. *The Compact has been working closely with the program vendor, the Low Income Energy Affordability Network (“LEAN”) best practices working group and the Department of Housing and Community Development to increase program funding to 90% of the total low income budget dedicated to single family in 2007.*
 - The Low-Income Multi-Family Program, which provides owners and managers of low-income multi-family dwellings with assistance in purchasing and installing efficient lighting, appliances and space heating measures. *Because low-income multi-family projects are classified as commercial accounts, on a case-by-case basis, the Compact may allocate additional funds, from the Commercial and Industrial (“C&I”) Sector, toward low-income multi-family projects based on availability of funds and building characteristics.*
 - The Low-Income New Construction Program, which provides low-income housing development agencies, weatherization assistance program (“WAP”)

providers, and residential construction trade allies with incentives to increase the home energy rating of new low-income housing. *The Compact is offering this service through the same vendor that delivers the Residential MA New Homes with ENERGY STAR Program. This new streamlined process will help the low-income vendor to reduce overhead costs and ultimately put more funds into the installation of energy efficiency measure. The Residential New Homes with Energy Star vendor will work with the local low-income vendor to insure that outreach and new construction leads are fully served.*

- The Commercial and Industrial (“C&I”) New Construction Program, which provides technical assistance and financial incentives to increase the efficiency in the construction, renovation, and/or remodeling of all commercial, industrial, government and multi-family housing facilities. *In 2007 the Compact is offering assistance through its sponsorship of Advanced Buildings, a nationwide program offered by the New Buildings Institute, White Salmon, WA. Advanced Buildings is a resource to improve the way buildings are designed, built and used. It provides design materials, training, marketing strategies and technical support for Architects, Engineers and Building Committees contemplating new construction in the Cape Light Compact service territory.*
- The Large Commercial and Industrial Retrofit Program, which provides technical and financial assistance to medium and large commercial and industrial customers seeking to replace existing operating equipment and processes in their facilities with high-efficiency alternatives.
- The Small Commercial and Industrial Retrofit Program, which provides technical assistance, financial incentives and direct installation to C&I customers whose peak demands are less than 100 kW to replace existing operating equipment and systems with high-efficiency equipment.
- The Government Agencies Program, which provides technical and financial energy efficiency assistance to all government facilities, including municipal, state and federal facilities.
- The Commercial and Industrial Products and Services Program, which seeks to increase the availability and use of more efficient motors, lighting designs, and HVAC systems. This program is used to implement NEEP and other regional market transformation initiatives.
- Streamlined C&I Rebate Applications. *In 2007 the Compact is streamlining its rebate applications with the goal of alignment with the Massachusetts electric distribution companies in order to make the application process easier for customers and vendors that operate over multiple service territories. The Compact has joined the Massachusetts electric distribution companies and KeySpan in sponsoring the Massachusetts Energy Efficiency Partnership (MAEEP) housed at the University of Massachusetts, Amherst, in order to provide sophisticated training and technical assistance to the C&I sector.*

In addition, the public education and marketing program is designed to utilize the extensive network and opportunities that the Compact has at the community and local government level. Public education and marketing support are designed to help overcome common barriers of energy efficiency awareness and facilitate participation in the Compact's programs.

Program Budgets

Table 2.1 presents a summary of the Compact's total energy efficiency budgets for the multi-year study period of 2007 through 2012. Electricity sales to the Compact member towns have been essentially flat since 2003, so the Compact assumes that sales in 2007 will increase by 0.1% relative to 2006, and that sales in all following years will increase by 0.3%. In future budget updates, the Compact will modify its budget forecast using the most recent sales information available.

Table 2.1 Program Budget Summary: 2007 through 2012

	2007	2008	2009	2010	2011	2012
Total Estimated Collections						
Forecasted MWh Sales						
Residential	1,151,001	1,154,454	1,157,917	1,161,391	1,164,875	1,168,370
Commercial and Industrial	941,728	944,553	947,387	950,229	953,080	955,939
Total Forecasted Sales (MWh)	2,092,729	2,099,007	2,105,304	2,111,620	2,117,955	2,124,309
Efficiency charge (mills/kWh)	2.5	2.5	2.5	2.5	2.5	2.5
Total Estimated Collections (\$)	5,231,822	5,247,518	5,263,260	5,279,050	5,294,887	5,310,772
Total Estimated Allocations						
Residential	2,228,756	2,235,443	2,242,149	2,248,875	2,255,622	2,262,389
Low-Income	648,746	650,692	652,644	654,602	656,566	658,536
Commercial and Industrial	2,354,320	2,361,383	2,368,467	2,375,573	2,382,699	2,389,847
Total	5,231,822	5,247,518	5,263,260	5,279,050	5,294,887	5,310,772

The Massachusetts Restructuring Act requires that low-income customers receive at least 20% of the residential efficiency budget (\$445,751), and in no event less than the amount funded by a charge of 0.25 mills/kWh, applied to sales of the customers on the low-income discount rate (\$523,182). The low-income customers (defined as within 60% of median income) in Compact member towns contributed roughly 11% of total electricity sales for all consumers on the Cape and Vineyard. Applying the full 2.5 mills/kWh efficiency charge to this portion of electricity sales results in low-income program funding that is higher than both of these two statutory funding "floors" (\$648,746). The Compact has chosen to use this higher means of allocating funds to the low-income sector. Furthermore, in 2006 and 2007 the Compact allocated slightly more than this amount to the low-income efficiency programs, to meet the demand for program services as estimated by the Housing Assistance Corporation.

Table 2.2 presents the details of the Compact's efficiency budget, by program. The program costs are broken out by planning and administration; marketing; financial incentives to customers; sales, technical assistance and training; and evaluation and market research. The Compact does not require shareholder performance incentives, thus these are not included in the budget.

Table 2.2 Program Budget Details for 2007

	Program Planning & Admin	Program Marketing	Customer Incentives	Sales, Tech Assist & Training	Evaluation and Market Research	Total Program
Residential Programs						
LI Single Family	71,632	32,723	324,140	130,020	25,358	583,871
LI Multi-Family	7,959	3,636	39,333	11,129	2,818	64,875
<u>Total Low-Income</u>	<u>79,591</u>	<u>36,359</u>	<u>363,472</u>	<u>141,149</u>	<u>28,175</u>	<u>648,746</u>
New Construction	27,088	14,398	181,907	80,701	34,378	338,472
P&S - Lighting	34,574	15,032	176,981	112,824	24,758	364,169
P&S - Appliances	33,412	14,308	165,917	106,022	27,823	347,482
P&S - HVAC	6,824	2,717	29,903	20,730	6,628	66,801
MassSAVE	98,930	44,101	537,962	294,414	36,426	1,011,832
<u>Total Non Low-Income</u>	<u>200,829</u>	<u>90,556</u>	<u>1,092,669</u>	<u>614,690</u>	<u>130,013</u>	<u>2,128,756</u>
<u>Total Residential</u>	<u>280,419</u>	<u>126,916</u>	<u>1,456,141</u>	<u>755,839</u>	<u>158,188</u>	<u>2,777,502</u>
Commercial & Industrial Programs						
New Construction	6,389	3,396	58,489	11,439	1,875	81,587
Large Retrofit	9,448	5,022	58,351	24,316	22,773	119,910
Small Retrofit	78,375	41,659	721,283	112,439	28,000	981,756
Government New Construction	3,599	1,913	33,706	4,811	1,056	45,086
Government Large Retrofit	28,795	15,305	255,459	52,682	8,450	360,691
Government Small Retrofit	48,861	25,971	461,971	55,907	19,339	612,048
Products and Services	22,499	2,391	19,550	7,480	1,320	53,241
<u>Total Commercial & Industrial</u>	<u>197,966</u>	<u>95,658</u>	<u>1,608,809</u>	<u>269,074</u>	<u>82,813</u>	<u>2,254,320</u>
Total Compact	478,385	222,574	3,064,951	1,024,913	241,000	5,031,822
Percent of Total Program	9.5%	4.4%	60.9%	20.4%	4.8%	100.0%

Program Cost-Effectiveness

The costs and benefits of the Compact's efficiency programs are summarized in Table 2.3. The costs and benefits are calculated according to the total resource cost (TRC) test, as required by the Department in DTE 98-100. The TRC test requires that the cost of each efficiency measure includes the cost to the Compact, the cost to the participating customer, and any other costs associated with installing the measure. The TRC test also requires that the program benefits include certain non-electric benefits, such as non-electric resource savings (e.g., oil, gas, water), and customer benefits (e.g. reduced operation and maintenance (O&M) costs), and several societal benefits associated with low-income programs. Where possible, these costs and benefits have been included in the results presented below.

As indicated in Table 2.3, the Compact's energy efficiency programs are very cost-effective. On average, all of the Compact's energy efficiency programs combined are estimated to have a benefit-cost ratio of roughly 2.9.

The direct economic benefits of the efficiency programs are substantial. With an investment of roughly \$7 million (from both the Compact's funds and the participants' contributions), these programs will result in over \$21 million in reduced energy costs and other benefits for Cape Cod and Martha's Vineyard. This means that the *net* benefits of these programs will be nearly \$14 million. No other investment in electricity resources and infrastructure offers this type of return for the investment.

In addition, these results do not account for the indirect economic and employment benefits that occur when lower electric bills result in increased disposable income and improved productivity for businesses and industries.

Table 2.3 Program Cost-Effectiveness

BCR Activity	TRC Benefit/ Cost	TRC Net Benefits	Total Benefits (\$000)	Total Costs (\$000)	PA Costs (\$000)
Residential					
A02a Residential Lost Opportunity	1.65	\$778	\$1,980	\$1,201	\$338
A03a Residential Retrofit 1-4	2.08	\$1,564	\$3,007	\$1,443	\$1,079
A04a Residential Lighting	7.40	\$3,071	\$3,551	\$480	\$364
A04b Residential Appliances	2.96	\$2,007	\$3,033	\$1,026	\$347
Subtotal: Residential	2.79	\$7,420	\$11,571	\$4,150	\$2,129
Low Income					
B03a Low-Income Retrofit 1-4	3.14	\$1,250	\$1,833	\$584	\$584
B03b Low-Income Retrofit Multifamily	3.57	\$167	\$232	\$65	\$65
Subtotal: Low Income	3.18	\$1,416	\$2,065	\$649	\$649
Com/Ind					
C02a C&I Lost Opportunity	2.09	\$240	\$460	\$220	\$180
C03a Large C&I Retrofit	2.87	\$1,036	\$1,591	\$555	\$481
C03b Small C&I Retrofit	3.05	\$3,713	\$5,529	\$1,816	\$1,594
Subtotal: C&I	2.93	\$4,990	\$7,580	\$2,591	\$2,254
Grand Total	2.87	\$13,826	\$21,216	\$7,390	\$5,032

Furthermore, all of the Compact’s energy efficiency programs result in significant environmental benefits that are not accounted for in the cost-benefit results above. By helping to avoid the construction and operation of power plants within New England, these programs can help mitigate some of the gravest environmental threats facing our society today, including climate change, ground-level ozone, acid rain, and damages from fine particulate matter, mercury and other air toxics. Table 2.4 presents an estimate of the key air emissions that are avoided by the Compact’s energy efficiency programs.

Table 2.4 Air Emissions Avoided by the Compact’s Energy Efficiency Programs

Avoided Emissions (lbs)	SO2	NOX	CO2
2007 Annual Savings	27,103	7,210	14,713,025
2007 Lifetime Savings	250,469	66,627	135,969,023
2007-2012 Annual Savings	163,842	43,584	88,942,891

3. Consistency With State Energy Efficiency Goals

The Compact’s Plan is clearly consistent with the state energy efficiency goals. To summarize:

Overall statewide energy efficiency goal: to strengthen the economy and protect the environment by increasing the efficiency of energy use. The efficiency measures installed in 2007 are expected to save roughly 11,458 MWh per year, and 106,389 MWh

over their operating lifetimes. These electricity savings will directly result in lower electricity costs for the residents and businesses on Cape Cod and Martha's Vineyard. The efficiency measures will also directly reduce the emissions produced by New England power plants, reduce the need for new power plants, and improve the reliability of electricity services.

Operational goal: to reduce the use of electricity cost-effectively. Each program in the Plan is highly cost-effective, with individual benefit-cost ratios of 1.6 and above. As a whole, the programs are expected to have an average benefit-cost ratio of 2.9. These estimates do not include the significant program benefits from environmental improvement and economic development.

Operational goal: to provide services to low-income customers at the levels directed by the Act and allocate funds equitably to other classes. The Massachusetts Restructuring Act requires that low-income customers should receive at least 20% of the residential efficiency budget, and in no event less than the amount funded by a charge of 2.5 mills/kWh. As described above, the Compact's low-income program budget exceeds both of these funding "floors."

The Compact programs and budgets are specifically designed to be equitably allocated among customer classes. First, the programs are designed to make energy efficiency services available to all customer types (low-income in single and multi-family units, low-income new construction, low- and moderate-use residential, high-use residential, residential new construction, small, medium and large C&I, government agencies, and C&I new construction). Second, the funding allocated to the residential and C&I program budgets is based on these customer classes' shares of total annual electricity sales, thereby ensuring that the funds are allocated equitably across these customer classes.

Programmatic goal: balance short- and long-term savings from energy efficiency programs. The primary purpose of this goal is to ensure that there is an appropriate balance between market transformation-type programs that focus on long-run savings, and more conventional programs that are designed to save energy immediately. The Compact's EEP clearly achieves this goal by offering programs that both result in immediate energy savings and promote long-term market transformation of energy efficiency products and services.

Programmatic goal: support the development of competitive markets for energy efficiency. The Compact has a relatively small internal staff to implement its energy efficiency programs. Consequently, a relatively large portion of the program activities will be conducted by contractors outside of the Compact. Each of the contractors hired by the Compact to administer and implement the energy efficiency programs has been, or will be, selected through competitive bidding processes.

In addition, the Compact will rely entirely upon competitive energy service companies to deliver its energy efficiency programs. These companies, in turn, rely upon a variety of other competitive companies that manufacture and distribute energy efficiency technologies. Combined, these businesses represent the core of the competitive market for energy efficiency in Massachusetts and the region.

4. Conclusion and Recommendation

The Compact's Plan easily meets all of the requirements necessary for certification by the DTE.

Phase I of the Plan was approved by the DTE in 2001. *See* April 6, 2001 Order, DTE 00-47-C. Phase II of the Plan was approved by the DTE in 2003. *See* October 23, 2003 Order, DTE 03-39. Phase III of the Plan was approved by the DTE in 2005. *See* November 8, 2005 Stamp Approval, DTE 05-34. The current Plan updates and improves upon the Compact's prior energy efficiency plans.

The Plan is clearly consistent with all of the state energy efficiency goals, and will provide significant cost-effective efficiency savings that will help protect the environment and strengthen the economy in Massachusetts. Accordingly, I recommend that the DTE certify the Compact's Energy Efficiency Plan.

Timothy Woolf

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA. Vice President, 1997-present.
Conducting research, writing reports, and presenting expert testimony pertaining to consumer, environmental, and public policy implications of electricity industry regulation. Primary focus of work includes electricity industry regulation and restructuring, electric power system planning, energy efficiency programs and policies, renewable resources and related policies, power plant performance and economics, air quality, and many aspects of consumer and environmental protection.

Tellus Institute, Boston, MA. Senior Scientist, Manager of Electricity Program, 1992-1997.
Responsible for managing six-person staff that provided research, testimony, reports and regulatory support to consumer advocates, environmental organizations, regulatory commissions, and state energy offices throughout the US.

Association for the Conservation of Energy, London, England. Research Director, 1991-1992.
Researched and advocated legislative and regulatory policies for promoting integrated resource planning and energy efficiency in the competitive electric industries in the UK and Europe.

Massachusetts Department of Public Utilities, Boston, MA. Staff Economist, 1989-1990.
Responsible for regulating and setting rates of Massachusetts electric utilities. Drafted integrated resource planning regulations. Evaluated utility energy efficiency programs.

Massachusetts Office of Energy Resources, Boston, MA. Policy Analyst, 1987-1989.
Researched and advocated integrated resource planning regulations. Participated in demand-side management collaborative with electric utilities and other parties.

Energy Systems Research Group, Boston, MA. Research Associate, 1983-1987.
Performed critical evaluations of electric utility planning and economics, including production cost modeling and assessment of power plant costs and performance.

Union of Concerned Scientists and Massachusetts Public Interest Research Group, Cambridge and Boston, MA. Energy Analyst, 1982-1983. Analyzed environmental and economic issues related to nuclear plants, renewable resources and energy efficiency.

EDUCATION

Masters, Business Administration. Boston University, Boston, MA, 1993.
Diploma, Economics. London School of Economics, London, England, 1991.
B.S., Mechanical Engineering. Tufts University, Medford, MA, 1982.
B.A., English. Tufts University, Medford, MA, 1982.

TESTIMONY

Rhode Island Public Utilities Commission (Docket No. 3765). Surrebuttal testimony regarding National Grid's Renewable Energy Standard Procurement Plan. On behalf of the Division of Public Utilities and Carriers. February 20, 2007.

Rhode Island Public Utilities Commission (Docket No. 3765). Direct testimony regarding National Grid's Renewable Energy Standard Procurement Plan. On behalf of the Division of Public Utilities and Carriers. January 17, 2007.

Minnesota Public Utilities Commission (Docket Nos. CN-05-619 and TR-05-1275). Direct testimony regarding the potential for energy efficiency as an alternative to the proposed Big Stone II coal project. On behalf of the Minnesota Center for Environmental Advocacy, Fresh Energy, Izaak Walton League of America, Wind on the Wires and the Union of Concerned Scientists. November 29, 2006.

Rhode Island Public Utilities Commission (Docket No. 3779). Oral testimony regarding the settlement of Narragansett Electric Company's 2007 Demand-Side Management Programs. On behalf of the Division of Public Utilities and Carriers. November 24, 2006.

Nevada Public Utilities Commission (Docket Nos. 06-04002 & 06-04005). Direct testimony regarding Nevada Power Company's and Sierra Pacific Power Company's Renewable Portfolio Standard Annual Report. On behalf of the Nevada Bureau of Consumer Protection. October 26, 2006

Nevada Public Utilities Commission (Docket No. 06-06051). Direct testimony regarding Nevada Power Company's Demand-Side Management Plan in the 2006 Integrated Resource Plan. On behalf of the Nevada Bureau of Consumer Protection. September 13, 2006.

Nevada Public Utilities Commission (Docket Nos. 06-03038 & 06-04018). Direct testimony regarding the Nevada Power Company's and Sierra Pacific Power Company's Demand-Side Management Plans. On behalf of the Nevada Bureau of Consumer Protection. June 20, 2006.

Nevada Public Utilities Commission (Docket No. 05-10021). Direct testimony regarding the Sierra Pacific Power Company's Gas Demand-Side Management Plan. On behalf of the Nevada Bureau of Consumer Protection. February 22, 2006.

South Dakota Public Utilities Commission (Docket No. EL04-016). Direct testimony regarding the avoided costs of the Java Wind Project. On behalf of the South Dakota Public Utilities Commission Staff. February 18, 2005.

Rhode Island Public Utilities Commission (Docket No. 3635). Oral testimony regarding the settlement of Narragansett Electric Company's 2005 Demand-Side Management Programs. On behalf of the Division of Public Utilities and Carriers. November 29, 2004.

British Columbia Utilities Commission. Direct testimony regarding the Power Smart programs contained in BC Hydro's Revenue Requirement Application 2004/05 and 2005/06. On behalf of the Sierra Club of Canada, BC Chapter. April 20, 2004.

Maryland Public Utilities Commission (Case No. 8973). Oral testimony regarding proposals for the PJM Generation Attributes Tracking System. On behalf of the Maryland Office of People's Counsel. December 3, 2003.

Rhode Island Public Utilities Commission (Docket No. 3463). Oral testimony regarding the settlement of Narragansett Electric Company's 2004 Demand-Side Management Programs. On behalf of the Division of Public Utilities and Carriers. November 21, 2003.

California Public Utilities Commission (Rulemaking 01-10-024). Direct testimony regarding the market price benchmark for the California renewable portfolio standard. On behalf of the Union of Concerned Scientists. April 1, 2003.

Québec Régie de l'énergie (Docket R-3473-01). Direct testimony of Timothy Woolf and Philp Raphals regarding Hydro-Québec's Energy Efficiency Plan: 2003-2006. On behalf of Regroupement national des Conseils régionaux de l'environnement du Québec. February 5, 2003.

Connecticut Department of Public Utility Control (Docket No. 01-10-10). Direct testimony regarding the United Illuminating Company's service quality performance standards in their performance-based ratemaking mechanism. On behalf of the Connecticut Office of Consumer Counsel. April 2, 2002.

Nevada Public Utilities Commission (Docket No. 01-7016). Direct testimony regarding the Nevada Power Company's Demand-Side Management Plan. On behalf of the Bureau of Consumer Protection, Office of the Attorney General. September 26, 2001.

US Department of Energy (Docket EE-RM-500). Oral testimony at a public hearing on marginal price assumptions for assessing new appliance efficiency standards. On behalf of the Appliance Standards Awareness Project. November 2000.

Connecticut Department of Public Utility Control (Docket No. 99-09-03 Phase II). Direct testimony on Connecticut Natural Gas Company's proposed performance-based ratemaking mechanism. On behalf of the Connecticut Office of Consumer Counsel. September 25, 2000.

Mississippi Public Service Commission (Docket No. 96-UA-389). Oral testimony on generation pricing and performance-based ratemaking. On behalf of the Mississippi Attorney General. February 16, 2000.

Delaware Public Service Commission (Docket No. 99-328). Direct testimony on maintaining electric system reliability. On behalf of the Public Service Commission Staff. February 2, 2000.

New Hampshire Public Service Commission (Docket No. 99-099 Phase II). Oral testimony on standard offer services. On behalf of the Campaign for Ratepayers Rights. January 14, 2000.

West Virginia Public Service Commission (Case No. 98-0452-E-GI). Rebuttal testimony on codes of conduct. On behalf of the West Virginia Consumer Advocate Division. July 15, 1999.

West Virginia Public Service Commission (Case No. 98-0452-E-GI). Direct testimony on codes of conduct and other measures to protect consumers in a restructured electricity industry. On behalf of the West Virginia Consumer Advocate Division. June 15, 1999.

Massachusetts Department of Telecommunications and Energy (DPU/DTE 97-111). Direct testimony on Commonwealth Electric Company's energy efficiency plan, and the role of municipal aggregators in delivering demand-side management programs. On behalf of the Cape and Islands Self-Reliance Corporation. January 1998.

Delaware Public Service Commission (DPSC 97-58). Direct testimony on Delmarva Power and Light's request to merge with Atlantic City Electric. On behalf of the Delaware Public Service Commission Staff. May 1997.

Delaware Public Service Commission (DPSC 95-172). Oral testimony on Delmarva's integrated resource plan and DSM programs. On behalf of the Delaware Public Service Commission Staff. May 1996.

Colorado Public Utilities Commission (5A-531EG). Direct testimony on impact of proposed merger on DSM, renewable resources and low-income DSM. On behalf of the Colorado Office of Energy Conservation. April 1996.

Colorado Public Utilities Commission (3I-199EG). Direct testimony on impacts of increased competition on DSM, and recommendations for how to provide utilities with incentives to implement DSM. On behalf of the Colorado Office of Energy Conservation. June 1995.

Colorado Public Utilities Commission (5R-071E). Oral testimony on the Commission's integrated resource planning rules. On behalf of the Colorado Office of Energy Conservation. July 1995.

Colorado Public Utilities Commission (3I-098E). Direct testimony on the Public Service Company of Colorado's DSM programs and integrated resource plans. On behalf of the Colorado Office of Energy Conservation. April 1994.

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Incorporating Energy Efficiency into the ISO-New England Forwarded Capacity Market, prepared on behalf of Conservation Services Group. June 5 2006.

Climate Change and Power: Carbon Dioxide Emission Costs and Electricity Resource Planning, prepared for the Tallahassee Electric Utility, May 2006.

Study of Potential Mohave Alternative/Complementary Generation Resources, Pursuant to CPUC Decision 04-12-016, prepared for Southern California Edison, with Sargent and Lundy, November 2005.

Potential Cost Impacts of a Renewable Portfolio Standard in New Brunswick, prepared for the New Brunswick Department of Energy, October 2005.

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