

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF PUBLIC UTILITIES

Petition of NSTAR Electric Company and)
Western Massachusetts Electric Company)
d/b/a Eversource Energy for Approval of their)
Grid Modernization Plans)

D.P.U. 15-122/123

DIRECT TESTIMONY OF
JONATHAN F. WALLACH
ON BEHALF OF
THE CAPE LIGHT COMPACT

MARCH 10, 2017

1 **Q: Please state your name, occupation, and business address.**

2 A: My name is Jonathan F. Wallach. I am Vice President of Resource Insight, Inc., 5
3 Water Street, Arlington, Massachusetts.

4 **Q: Please summarize your professional experience.**

5 A: I have worked as a consultant to the electric power industry since 1981. From 1981
6 to 1986, I was a Research Associate at Energy Systems Research Group. In 1987
7 and 1988, I was an independent consultant. From 1989 to 1990, I was a Senior
8 Analyst at Komanoff Energy Associates. I have been in my current position at
9 Resource Insight since September of 1990.

10 Over the past four decades, I have advised and testified on behalf of clients on a
11 wide range of economic, planning, and policy issues relating to the regulation of
12 electric utilities, including: electric-utility restructuring; wholesale-power market
13 design and operations; transmission pricing and policy; market-price forecasting;
14 market valuation of generating assets and purchase contracts; power-procurement
15 strategies; risk assessment and mitigation; integrated resource planning; mergers
16 and acquisitions; cost allocation and rate design; and energy-efficiency program
17 design and planning.

18 My resume is attached as Exhibit CLC-JFW-2.

19 **Q: Have you testified previously in utility proceedings?**

1 A: Yes. I have sponsored expert testimony in more than eighty state, provincial, and
2 federal proceedings in the U.S. and Canada. In Massachusetts, I testified before the
3 Department of Public Utilities (the “Department”) in D.P.U. 89-100, D.T.E. 97-11,
4 D.T.E. 97-120, D.P.U. 10-170, and D.P.U. 11-05, 11-06, and 11-07. Exhibit CLC-
5 JFW-2 (at 7-16) provides a detailed list of my previous testimony.

6 **Q: On whose behalf are you testifying in this proceeding?**

7 A: I am testifying on the behalf of the Cape Light Compact.

8 **Q: What is your understanding of the petition of Eversource Energy in this**
9 **proceeding?**

10 A: On August 19, 2015, NSTAR Electric Company (“NSTAR Electric”) and Western
11 Massachusetts Electric Company (“WMECO”), doing business as Eversource
12 Energy (“Eversource”), petitioned the Department for approval of a proposed Grid
13 Modernization Plan and for recovery and reconciliation of associated revenue
14 requirements through a proposed Short-Term Investment Factor (“STIF”) and a
15 proposed Research, Development, and Deployment Factor (“RDDF”). The August
16 19, 2015 petition, together with all simultaneously filed exhibits and appendices, as
17 well as the revisions to the petition filed by Eversource on June 16, 2016, are
18 referred to collectively as the “Initial Filing.” On February 3, 2017, Eversource
19 filed a revised proposal for an Incremental Grid Modernization Plan (the “Revised
20 IGMP”). The Revised IGMP narrows the scope and cost of proposed investments
21 to be considered in this proceeding, in accordance with Eversource’s proposal in

1 D.P.U. 17-05 to recover \$400 million of grid modernization investments through
2 base distribution rates.¹ In addition, the Revised IGMP eliminates the STIF and
3 proposes recovery of all the Revised IGMP revenue requirements through the
4 RDDF. Finally, the Revised IGMP eliminates the RDDF for WMECO and
5 implements a consolidated reconciliation factor for all of Eversource.²

6 **Q: What is the purpose of your direct testimony?**

7 A: My testimony addresses Eversource's proposal for recovering Revised IGMP
8 revenue requirements through the RDDF. Specifically, I address Eversource's
9 proposal to: (1) allocate NSTAR Electric Revised IGMP revenue requirements to
10 NSTAR Electric's legacy service territories prior to consolidation of the NSTAR
11 Electric and WMECO RDDFs; (2) implement a single, consolidated RDDF for all
12 of Eversource; and (3) allocate the Revised IGMP revenue requirements recovered
13 through the RDDF to rate classes.

1 More precisely, Eversource proposes in D.P.U. 17-05 to forego recovery for a five-year period of the annual revenue requirements associated with up to \$400 million of grid modernization spending during that five-year period. At the end of the five-year period, Eversource would resume recovery through base rates of grid modernization revenue requirements associated with grid modernization spending during the previous five years as well as with any additional future investments in grid modernization.

² The Revised IGMP filing does not provide a specific date for implementation of an Eversource-wide RDDF.

1 Eversource's proposals for allocating and recovering the Revised IGMP revenue
2 requirements through the RDDF are supported in pre-filed direct testimony by
3 Eversource witness Richard D. Chin.

4 **Q: How does Eversource propose to recover the Revised IGMP expenditures in**
5 **the NSTAR Electric and WMECO service territories?**

6 A: Starting in 2018, Eversource proposes to recover the Revised IGMP expenditures in
7 each service territory through separate RDDFs for NSTAR Electric and WMECO.
8 At some unspecified time in the future, Eversource proposes to consolidate the
9 NSTAR Electric and WMECO RDDFs and recover all of the Revised IGMP
10 expenditures in the two service territories through a single Eversource-wide RDDF.
11 At that time, all ratepayers throughout the NSTAR Electric and WMECO service
12 territories that are in the same rate class would pay the same RDDF rate under
13 Eversource's proposal.

14 **Q: Are you able to fully evaluate Eversource's proposal for allocating and**
15 **recovering the Revised IGMP revenue requirements at this time?**

16 A: No. In Exhibits EVERSOURCE-RDC-4 (for NSTAR Electric) and
17 EVERSOURCE-RDC-5 (for WMECO), Eversource witness Chin provides an
18 illustrative derivation of the RDDF rates by rate class under Eversource's proposal
19 for separate NSTAR Electric and WMECO RDDFs.³ However, Mr. Chin does not

³ In addition, Exhibit EVERSOURCE-RDC-4 shows separate rates by rate class for each of the NSTAR Electric legacy service territories (i.e., Boston Edison, Cambridge Electric, and Commonwealth Electric).

1 provide a comparable exhibit showing an illustrative derivation of RDDF rates by
2 rate class under Eversource's proposal to eventually recover the Revised IGMP
3 costs through a single, consolidated RDDF. Consequently, I am unable to
4 determine how the change from separate RDDFs for the NSTAR Electric and
5 WMECO service territories to a consolidated RDDF for all of Eversource might
6 affect each rate class.

7 The RDDF rates shown in Exhibits EVERSOURCE-RDC-4 and EVERSOURCE-
8 RDC-5 are of no use in determining the reasonableness of Eversource's proposal for
9 recovering the Revised IGMP costs through a single RDDF for all of Eversource.

10 The Department should therefore direct Eversource to file a version of Exhibit
11 EVERSOURCE-RDC-4 that provides Eversource's derivation of RDDF rates by
12 rate class under its current proposal to recover the Revised IGMP costs through an
13 Eversource-wide RDDF.

14 **Q: Is Eversource's proposal to recover the Revised IGMP costs through an**
15 **Eversource-wide RDDF consistent with Eversource's proposal for other**
16 **reconciliation factors in D.P.U. 17-05?**

17 A: That is unclear. Eversource proposes in D.P.U. 17-05 to maintain separate
18 reconciliation factors for the NSTAR Electric and WMECO service territories in
19 2018 and to consolidate six of the reconciliation factors in 2019. Although the
20 Revised IGMP filing proposes consolidation of the NSTAR Electric and WMECO
21 RDDFs, it does not specify when the consolidated RDDF would become effective.

1 **Q: Is Eversource's proposal to recover the Revised IGMP costs through an**
2 **Eversource-wide RDDF consistent with Eversource's proposal for recovering**
3 **other grid modernization costs through base rates in D.P.U. 17-05?**

4 A: No. In D.P.U. 17-05, Eversource proposes to align, but not consolidate, base rates
5 across the NSTAR Electric and WMECO service territories until the next base rate
6 case. Under Eversource's proposal in D.P.U. 17-05, grid modernization
7 expenditures in each service territory would be recovered separately through base
8 rates specific to that service territory.

9 **Q: Should the Revised IGMP revenue requirements be recovered through a single**
10 **Eversource-wide RDDF or separate RDDFs for the NSTAR Electric and**
11 **WMECO service territories?**

12 A: This issue is best addressed in D.P.U. 17-05, where the Department can consider
13 Eversource's proposal for the RDDF in the context of Eversource's proposals for
14 other reconciliation factors and for recovery of other grid modernization costs
15 through base rates. As part of its broader consideration in D.P.U. 17-05, the
16 Department can determine whether the Revised IGMP costs should be recovered in
17 the same fashion as proposed by Eversource for other reconciliation factors or
18 consistent with Eversource's proposal for recovery of other grid modernization
19 costs through base rates.

20 **Q. While the NSTAR Electric and WMECO RDDFs remain unconsolidated, how**
21 **does Eversource propose to allocate costs recovered through the NSTAR**
22 **Electric RDDF to NSTAR Electric's legacy service territories?**

1 A. According to Eversource witness Chin, Eversource proposes to allocate NSTAR
2 Electric Revised IGMP expenditures to legacy service territories in proportion to
3 each service territory's distribution revenues. (See Eversource Response to
4 Information Request CLC-3-1(a).)

5 **Q. Is this proposal consistent with the proposed allocation of other grid**
6 **modernization costs in D.P.U. 17-05?**

7 A. No. In D.P.U. 17-05 (Exhibit ES-RDP-1 at 5-6), Eversource proposes to
8 consolidate base rates across NSTAR Electric's legacy service territories since it no
9 longer maintains separate cost accounting for each service territory:

10 Because NSTAR Electric has fully consolidated [Boston Edison
11 Company ("BECO"), Cambridge Electric Light Company ("CAMB")
12 and Commonwealth Electric Company ("COM")], as corporate
13 entities, there is no separate accounting of operating costs for BECO,
14 CAMB and COM. Consequently, NSTAR Electric can no longer
15 produce detailed cost-based rates for these legacy territories.
16 Therefore, in order to set new rates consistent with the Department's
17 rate structure goals and principles, it is necessary to establish
18 consolidated rates for NSTAR Electric.

19 Thus, grid modernization costs recovered through base rates would not be explicitly
20 allocated to legacy service territories under Eversource's proposal in D.P.U. 17-05.

21 **Q. How should Revised IGMP costs recovered through the NSTAR Electric RDDF**
22 **be allocated to NSTAR Electric's legacy service territories?**

23 A. Costs recovered through the NSTAR Electric RDDF should be allocated to legacy
24 service territories in the same fashion as other grid modernization costs recovered
25 through base rates.

1 If the Department approves Eversource's request in D.P.U. 17-05 to consolidate
2 base rates across NSTAR Electric's service territories then the NSTAR Electric
3 RDDF should be as well. In this case, NSTAR Electric Revised IGMP expenditures
4 would not be explicitly allocated to legacy service territories. Instead, the Revised
5 IGMP costs would be allocated to all NSTAR Electric customers by rate class.

6 On the other hand, if the Department rejects Eversource's request in D.P.U. 17-05 to
7 consolidate base rates across NSTAR Electric's service territories, then the Revised
8 IGMP costs should be allocated to legacy service territories in accordance with the
9 Department's directive for allocating other grid modernization costs in D.P.U. 17-
10 05.⁴

11 **Q: How does Eversource propose to allocate the Revised IGMP revenue**
12 **requirements to rate classes?**

13 A: Whether recovered through separate NSTAR Electric and WMECO RDDFs or
14 through a consolidated Eversource-wide RDDF, Eversource proposes to allocate the
15 Revised IGMP costs to rate classes in proportion to each class's contribution to total
16 distribution revenues. According to Mr. Chin (Revised IGMP, Exhibit
17 EVERSOURCE-RDC-1 at 9), Eversource proposes allocation of the Revised IGMP

⁴ Presumably, grid modernization costs recovered through base rates would be allocated to NSTAR Electric's legacy service territories using the same combination of direct assignment and cost-based allocators as employed in previous NSTAR Electric rate cases.

1 costs to rate classes on the basis of rate-class distribution revenues because cost
2 causation is not clear with respect to these investments:⁵

3 Grid modernization is a public-policy initiative where costs cannot be
4 attributed to any particular class of customer and the benefits to
5 customers in each rate class vary depending on the investment. For this
6 reason, there is no direct connection between the costs incurred and the
7 cost to serve each rate class. Therefore, the Company proposes to
8 allocate cost recovery using a distribution revenue allocator that assigns
9 costs to each rate class in direct proportion to the rate class' contribution
10 to base distribution revenues.

11 **Q: Do you agree that there is an absence of clear cost causation for grid**
12 **modernization investments?**

13 A: No. As noted by Eversource in its Initial Filing (Exhibit EVERSOURCE-GMP at
14 8), Eversource developed the proposed Revised IGMP in order to secure the system
15 and customer benefits from grid modernization:

16 Eversource developed its GMP to achieve the four grid-modernization
17 objectives identified by the Department, which are to: (1) reduce the
18 effects of outages; (2) optimize demand, including reducing system and
19 customer costs; (3) integrate DER; and (4) improve workforce and asset
20 management.

21 In other words, the decision as to which grid modernization investments to include
22 in the Initial Filing was primarily driven by considerations of the expected system
23 and customer benefits from such investments. Accordingly, grid modernization

⁵ Section 51 of An Act Relative to Competitively Priced Electricity in the Commonwealth, St. 2012, c. 209, requires that costs recovered through a distribution reconciliation factor be allocated on the basis of distribution revenues in the absence of clear cost causation.

1 costs should be allocated to rate classes commensurate with each class's share of
2 the benefits from those investments.

3 **Q: How should the Revised IGMP costs be allocated to rate classes?**

4 A: Eversource retained Navigant Consulting to conduct a cost-benefit analysis of the
5 proposed Revised IGMP. According to Navigant Consulting (Revised IGMP,
6 Exhibit EVERSOURCE-GMP, Appendix 7 at 19), the only monetizable benefit of
7 any material magnitude is from the coincident peak savings associated with
8 Eversource's proposal to offer time-varying rates. It would therefore be reasonable
9 to allocate the Revised IGMP revenue requirements to rate classes in proportion to
10 each class's contribution to total coincident peak demand for all rate classes.

11 **Q: Does this conclude your direct testimony?**

12 A: Yes, based on the information provided by Eversource to date. However, I reserve
13 the right to supplement my testimony once Eversource provides a revised version of
14 Exhibit EVERSOURCE-RDC-4 that reflects Eversource's proposal to eventually
15 recover the Revised IGMP revenue requirements through an Eversource-wide
16 RDDF.

Qualifications of
JONATHAN F. WALLACH

Resource Insight, Inc.
5 Water Street
Arlington, Massachusetts 02476

SUMMARY OF PROFESSIONAL EXPERIENCE

- 1990–Present* **Vice President, Resource Insight, Inc.** Provides research, technical assistance, and expert testimony on electric- and gas-utility planning, economics, regulation, and restructuring. Designs and assesses resource-planning strategies for regulated and competitive markets, including estimation of market prices and utility-plant stranded investment; negotiates restructuring strategies and implementation plans; assists in procurement of retail power supply.
- 1989–90* **Senior Analyst, Komanoff Energy Associates.** Conducted comprehensive cost-benefit assessments of electric-utility power-supply and demand-side conservation resources, economic and financial analyses of independent power facilities, and analyses of utility-system excess capacity and reliability. Provided expert testimony on statistical analysis of U.S. nuclear plant operating costs and performance. Co-wrote *The Power Analyst*, software developed under contract to the New York Energy Research and Development Authority for screening the economic and financial performance of non-utility power projects.
- 1987–88* **Independent Consultant.** Provided consulting services for Komanoff Energy Associates (New York, New York), Schlissel Engineering Associates (Belmont, Massachusetts), and Energy Systems Research Group (Boston, Massachusetts).
- 1981–86* **Research Associate, Energy Systems Research Group.** Performed analyses of electric utility power supply planning scenarios. Involved in analysis and design of electric and water utility conservation programs. Developed statistical analysis of U.S. nuclear plant operating costs and performance.

EDUCATION

BA, Political Science with honors and Phi Beta Kappa, University of California, Berkeley, 1980.

Massachusetts Institute of Technology, Cambridge, Massachusetts. Physics and Political Science, 1976–1979.

PUBLICATIONS

“The Future of Utility Resource Planning: Delivering Energy Efficiency through Distributed Utilities” (with Paul Chernick), *International Association for Energy Economics Seventeenth Annual North American Conference* (460–469). Cleveland, Ohio: USAEE. 1996.

“The Price is Right: Restructuring Gain from Market Valuation of Utility Generating Assets” (with Paul Chernick), *International Association for Energy Economics Seventeenth Annual North American Conference* (345–352). Cleveland, Ohio: USAEE. 1996.

“The Future of Utility Resource Planning: Delivering Energy Efficiency through Distribution Utilities” (with Paul Chernick), *1996 Summer Study on Energy Efficiency in Buildings* 7(7.47–7.55). Washington: American Council for an Energy-Efficient Economy, 1996.

“Retrofit Economics 201: Correcting Common Errors in Demand-Side-Management Cost-Benefit Analysis” (with John Plunkett and Rachael Brailove). In proceedings of “Energy Modeling: Adapting to the New Competitive Operating Environment,” conference sponsored by the Institute for Gas Technology in Atlanta in April of 1995. Des Plaines, Ill.: IGT, 1995.

“The Transfer Loss is All Transfer, No Loss” (with Paul Chernick), *Electricity Journal* 6:6 (July, 1993).

“Benefit-Cost Ratios Ignore Interclass Equity” (with Paul Chernick et al.), *DSM Quarterly*, Spring 1992.

“Consider Plant Heat Rate Fluctuations,” *Independent Energy*, July/August 1991.

“Demand-Side Bidding: A Viable Least-Cost Resource Strategy” (with Paul Chernick and John Plunkett), *Proceedings from the NARUC Biennial Regulatory Information Conference*, September 1990.

“New Tools on the Block: Evaluating Non-Utility Supply Opportunities With *The Power Analyst*, (with John Plunkett), *Proceedings of the Fourth National Conference on Micro-computer Applications in Energy*, April 1990.

REPORTS

“Economic Benefits from Early Retirement of Reid Gardner” (with Paul Chernick) prepared for and filed by the Sierra Club in PUC of Nevada Docket No. 11-08019.

“Green Resource Portfolios: Development, Integration, and Evaluation” (with Paul Chernick and Richard Mazzini) report to the Green Energy Coalition presented as evidence in Ontario EB 2007-0707.

“Risk Analysis of Procurement Strategies for Residential Standard Offer Service” (with Paul Chernick, David White, and Rick Hornby) report to Maryland Office of People’s Counsel. 2008. Baltimore: Maryland Office of People’s Counsel.

“Integrated Portfolio Management in a Restructured Supply Market” (with Paul Chernick, William Steinhurst, Tim Woolf, Anna Sommers, and Kenji Takahashi). 2006. Columbus, Ohio: Office of the Ohio Consumers’ Counsel.

“First Year of SOS Procurement.” 2004. Prepared for the Maryland Office of People’s Counsel.

“Energy Plan for the City of New York” (with Paul Chernick, Susan Geller, Brian Tracey, Adam Auster, and Peter Lanzalotta). 2003. New York: New York City Economic Development Corporation.

“Peak-Shaving–Demand-Response Analysis: Load Shifting by Residential Customers” (with Brian Tracey). 2003. Barnstable, Mass.: Cape Light Compact.

“Electricity Market Design: Incentives for Efficient Bidding; Opportunities for Gaming.” 2002. Silver Spring, Maryland: National Association of State Consumer Advocates.

“Best Practices in Market Monitoring: A Survey of Current ISO Activities and Recommendations for Effective Market Monitoring and Mitigation in Wholesale Electricity Markets” (with Paul Peterson, Bruce Biewald, Lucy Johnston, and Etienne Gonin). 2001. Prepared for the Maryland Office of People’s Counsel, Pennsylvania Office of Consumer Advocate, Delaware Division of the Public Advocate, New Jersey Division of the Ratepayer Advocate, Office of the People’s Counsel of the District of Columbia.

“Comments Regarding Retail Electricity Competition.” 2001. Filed by the Maryland Office of People’s Counsel in U.S. FTC Docket No. V010003.

“Final Comments of the City of New York on Con Edison’s Generation Divestiture Plans and Petition.” 1998. Filed by the City of New York in PSC Case No. 96-E-0897.

“Response Comments of the City of New York on Vertical Market Power.” 1998. Filed by the City of New York in PSC Case Nos. 96-E-0900, 96-E-0098, 96-E-0099, 96-E-0891, 96-E-0897, 96-E-0909, and 96-E-0898.

“Preliminary Comments of the City of New York on Con Edison’s Generation Divestiture Plan and Petition.” 1998. Filed by the City of New York in PSC Case No. 96-E-0897.

“Maryland Office of People’s Counsel’s Comments in Response to the Applicants’ June 5, 1998 Letter.” 1998. Filed by the Maryland Office of People’s Counsel in PSC Docket No. EC97-46-000.

“Economic Feasibility Analysis and Preliminary Business Plan for a Pennsylvania Consumer’s Energy Cooperative” (with John Plunkett et al.). 1997. 3 vols. Philadelphia, Penn.: Energy Coordinating Agency of Philadelphia.

“Good Money After Bad” (with Charles Komanoff and Rachel Brailove). 1997. White Plains, N.Y.: Pace University School of Law Center for Environmental Studies.

“Maryland Office of People’s Counsel’s Comments on Staff Restructuring Report: Case No. 8738.” 1997. Filed by the Maryland Office of People’s Counsel in PSC Case No. 8738.

“Protest and Request for Hearing of Maryland Office of People’s Counsel.” 1997. Filed by the Maryland Office of People’s Counsel in PSC Docket Nos. EC97-46-000, ER97-4050-000, and ER97-4051-000.

“Restructuring the Electric Utilities of Maryland: Protecting and Advancing Consumer Interests” (with Paul Chernick, Susan Geller, John Plunkett, Roger Colton, Peter Bradford,

Bruce Biewald, and David Wise). 1997. Baltimore, Maryland: Maryland Office of People's Counsel.

"Comments of the New Hampshire Office of Consumer Advocate on Restructuring New Hampshire's Electric-Utility Industry" (with Bruce Biewald and Paul Chernick). 1996. Concord, N.H.: NH OCA.

"Estimation of Market Value, Stranded Investment, and Restructuring Gains for Major Massachusetts Utilities" (with Paul Chernick, Susan Geller, Rachel Brailove, and Adam Auster). 1996. On behalf of the Massachusetts Attorney General (Boston).

"Report on Entergy's 1995 Integrated Resource Plan." 1996. On behalf of the Alliance for Affordable Energy (New Orleans).

"Preliminary Review of Entergy's 1995 Integrated Resource Plan." 1995. On behalf of the Alliance for Affordable Energy (New Orleans).

"Comments on NOPSI and LP&L's Motion to Modify Certain DSM Programs." 1995. On behalf of the Alliance for Affordable Energy (New Orleans).

"Demand-Side Management Technical Market Potential Progress Report." 1993. On behalf of the Legal Environmental Assistance Foundation (Tallahassee)

"Technical Information." 1993. Appendix to "Energy Efficiency Down to Details: A Response to the Director General of Electricity Supply's Request for Comments on Energy Efficiency Performance Standards" (UK). On behalf of the Foundation for International Environmental Law and Development and the Conservation Law Foundation (Boston).

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"Analysis Findings, Conclusions, and Recommendations." 1992. Vol. 1 of "Correcting the Imbalance of Power: Report on Integrated Resource Planning for Ontario Hydro" (with Paul Chernick and John Plunkett).

"Demand-Management Programs: Targets and Strategies." 1992. Vol. 1 of "Building Ontario Hydro's Conservation Power Plant" (with John Plunkett, James Peters, and Blair Hamilton).

"Review of the Elizabethtown Gas Company's 1992 DSM Plan and the Demand-Side Management Rules" (with Paul Chernick, John Plunkett, James Peters, Susan Geller, Blair Hamilton, and Andrew Shapiro). 1992. Report to the New Jersey Department of Public Advocate.

"Comments of Public Interest Intervenors on the 1993-1994 Annual and Long-Range Demand-Side Management and Integrated Resource Plans of New York Electric Utilities" (with Ken Keating et al.) 1992.

“Review of Jersey Central Power & Light’s 1992 DSM Plan and the Demand-Side Management Rules” (with Paul Chernick et al.). 1992. Report to the New Jersey Department of Public Advocate.

“Review of Rockland Electric Company’s 1992 DSM Plan and the Demand-Side Management Rules” (with Paul Chernick et al.). 1992.

“Initial Review of Ontario Hydro’s Demand-Supply Plan Update” (with David Argue et al.). 1992.

“Comments on the Utility Responses to Commission’s November 27, 1990 Order and Proposed Revisions to the 1991–1992 Annual and Long Range Demand Side Management Plans” (with John Plunkett et al.). 1991.

“Comments on the 1991–1992 Annual and Long Range Demand-Side-Management Plans of the Major Electric Utilities” (with John Plunkett et al.). Filed in NY PSC Case No. 28223 in re New York utilities’ DSM plans. 1990.

“Profitability Assessment of Packaged Cogeneration Systems in the New York City Area.” 1989. Principal investigator.

“Statistical Analysis of U.S. Nuclear Plant Capacity Factors, Operation and Maintenance Costs, and Capital Additions.” 1989.

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“Generating Plant Operating Performance Standards Report No. 2: Review of Nuclear Plant Capacity Factor Performance and Projections for the Palo Verde Nuclear Generating Facility.” 1985. ESRG Study No. 85-22/2.

“Cost-Benefit Analysis of the Cancellation of Commonwealth Edison Company’s Braidwood Nuclear Generating Station.” 1984. ESRG Study No. 83-87.

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“An Evaluation of the Testimony and Exhibit (RCB-2) of Dr. Robert C. Bushnell Concerning the Capital Cost of Fermi 2.” 1984. ESRG Study No. 84-30.

“Electric Rate Consequences of Cancellation of the Midland Nuclear Power Plant.” 1984. ESRG Study No. 83-81.

“Power Planning in Kentucky: Assessing Issues and Choices—Project Summary Report to the Public Service Commission.” 1984. ESRG Study No. 83-51.

“Electric Rate Consequences of Retiring the Robinson 2 Nuclear Plant.” 1984. ESRG Study No. 83-10.

“Power Planning in Kentucky: Assessing Issues and Choices—Conservation as a Planning Option.” 1983. ESRG Study No. 83-51/TR III.

“Electricity and Gas Savings from Expanded Public Service Electric and Gas Company Conservation Programs.” 1983. ESRG Study No. 82-43/2.

“Long Island Without the Shoreham Power Plant: Electricity Cost and System Planning Consequences; Summary of Findings.” 1983. ESRG Study No. 83-14S.

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“Customer Programs to Moderate Demand Growth on the Arizona Public Service Company System: Identifying Additional Cost-Effective Program Options.” 1982. ESRG Study No. 82-14C.

“The Economics of Alternative Space and Water Heating Systems in New Construction in the Jersey Central Power and Light Service Area, A Report to the Public Advocate.” 1982. ESRG Study No. 82-31.

“Review of the Kentucky-American Water Company Capacity Expansion Program, A Report to the Kentucky Public Service Commission.” 1982. ESRG Study No. 82-45.

“Long Range Forecast of Sierra Pacific Power Company Electric Energy Requirements and Peak Demands, A Report to the Public Service Commission of Nevada.” 1982. ESRG Study No. 81-42B.

“Utility Promotion of Residential Customer Conservation, A Report to Massachusetts Public Interest Research Group.” 1981. ESRG Study No. 81-47

PRESENTATIONS

“Office of People’s Counsel Case No. 9117” (with William Fields). Presentation to the Maryland Public Utilities Commission in Case No. 9117, December 2008.

“Electricity Market Design: Incentives for Efficient Bidding, Opportunities for Gaming.” NASUCA Northeast Market Seminar, Albany, N.Y., February 2001.

“Direct Access Implementation: The California Experience.” Presentation to the Maryland Restructuring Technical Implementation Group on behalf of the Maryland Office of People’s Counsel. June 1998.

“Reflecting Market Expectations in Estimates of Stranded Costs,” speaker, and workshop moderator of “Effectively Valuing Assets and Calculating Stranded Costs.” Conference sponsored by International Business Communications, Washington, D.C., June 1997.

EXPERT TESTIMONY

- 1989 **Mass. DPU** on behalf of the Massachusetts Executive Office of Energy Resources. Docket No. 89-100. Joint testimony with Paul Chernick relating to statistical analysis of U.S. nuclear-plant capacity factors, operation and maintenance costs, and capital additions; and to projections of capacity factor, O&M, and capital additions for the Pilgrim nuclear plant.
- 1994 **NY PSC** on behalf of the Pace Energy Project, Natural Resources Defense Council, and Citizen's Advisory Panel. Case No. 93-E-1123. Joint testimony with John Plunkett critiques proposed modifications to Long Island Lighting Company's DSM programs from the perspective of least-cost-planning principles.
- 1994 **Vt. PSB** on behalf of the Vermont Department of Public Service. Docket No. 5270-CV-1 and 5270-CV-3. Testimony and rebuttal testimony discusses rate and bill effects from DSM spending and sponsors load shapes for measure- and program-screening analyses.
- 1996 **New Orleans City Council** on behalf of the Alliance for Affordable Energy. Docket Nos. UD-92-2A, UD-92-2B, and UD-95-1. Rates, charges, and integrated resource planning for Louisiana Power & Lights and New Orleans Public Service, Inc.
- 1996 **New Orleans City Council** Docket Nos. UD-92-2A, UD-92-2B, and UD-95-1. Rates, charges, and integrated resource planning for Louisiana Power & Lights and New Orleans Public Service, Inc.; Alliance for Affordable Energy. April, 1996.
- Prudence of utilities' IRP decisions; costs of utilities' failure to follow City Council directives; possible cost disallowances and penalties; survey of penalties for similar failures in other jurisdictions.
- 1998 **Massachusetts Department of Telecommunications and Energy** Docket No. 97-111, Commonwealth Energy proposed restructuring; Cape Cod Light Compact. Joint testimony with Paul Chernick, January, 1998.
- Critique of proposed restructuring plan filed to satisfy requirements of the electric-utility restructuring act of 1997. Failure of the plan to foster competition and promote the public interest.
- Massachusetts Department of Telecommunications and Energy** Docket No. 97-120, Western Massachusetts Electric Company proposed restructuring; Massachusetts Attorney General. Joint testimony with Paul Chernick, October, 1998. Joint surrebuttal with Paul Chernick, January, 1999.
- Market value of the three Millstone nuclear units under varying assumptions of plant performance and market prices. Independent forecast of wholesale market prices. Value of Pilgrim and TMI-1 asset sales.

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