

PROVINCE OF NOVA SCOTIA
BEFORE THE UTILITY AND REVIEW BOARD

In the Matter of an Application by)
Nova Scotia Power Incorporated for)
Approval of South Canoe Wind Project)
CI 42127 for \$93,091,536)

Matter No. M05416

DIRECT TESTIMONY OF
PAUL CHERNICK
ON BEHALF OF
THE CONSUMER ADVOCATE

Resource Insight, Inc.

JANUARY 23, 2013

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Exhibit PLC-1 *Professional Qualifications of Paul Chernick*

1 **I. Identification**

2 **Q: Mr. Chernick, please state your name, occupation, and business address.**

3 A: I am Paul L. Chernick. I am the president of Resource Insight, Inc., 5 Water St,
4 Arlington, Massachusetts.

5 **Q: Summarize your professional education and experience.**

6 A: I received an SB degree from the Massachusetts Institute of Technology in June
7 1974 from the Civil Engineering Department, and an SM degree from the
8 Massachusetts Institute of Technology in February 1978 in technology and
9 policy. I have been elected to membership in the civil engineering honorary
10 society Chi Epsilon, and the engineering honour society Tau Beta Pi, and to
11 associate membership in the research honorary society Sigma Xi.

12 I was a utility analyst for the Massachusetts Attorney General for more
13 than three years, and was involved in numerous aspects of utility rate design,
14 costing, load forecasting, and the evaluation of power supply options. Since
15 1981, I have been a consultant in utility regulation and planning, first as a
16 research associate at Analysis and Inference, after 1986 as president of PLC,
17 Inc., and in my current position at Resource Insight. In these capacities, I have
18 advised a variety of clients on utility matters.

19 My work has considered, among other things, the cost-effectiveness of pro-
20 spective new electric generation plants and transmission lines, retrospective
21 review of generation-planning decisions, ratemaking for plant under construc-
22 tion, ratemaking for excess and/or uneconomical plant entering service, conser-
23 vation -program design, cost recovery for utility efficiency programs, the valua-
24 tion of environmental externalities from energy production and use, allocation of
25 costs of service between rate classes and jurisdictions, design of retail and

1 wholesale rates, and performance-based ratemaking and cost recovery in restruc-
2 tured gas and electric industries. My professional qualifications are further
3 summarized in Exhibit PLC-1.

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

5 A: Yes. I have testified more than 250 times on utility issues before various
6 regulatory, legislative, and judicial bodies, including utility regulators in thirty
7 states and five Canadian provinces, and before two U.S. Federal agencies. This
8 testimony has included the review of many utility-proposed power plants and
9 purchased-power contracts.

10 **Q: Have you testified previously regarding cost allocation issues?**

11 A: Yes. I have testified in at least two dozen proceedings on utility allocation of
12 costs among rate classes, as listed in my resume.

13 **Q: Have you testified previously regarding energy-efficiency programs?**

14 A: Yes. I have testified in at least 60 proceedings on utility-funded energy-
15 efficiency efforts, as listed in my resume.

16 **Q: Have you previously testified before this Board?**

17 A: Yes. I testified in the Board's review of the following cases:

- 18 • Nova Scotia Power's Demand Side Management Plan for 2010 and Demand
19 Side Management Cost Recovery Rider in May 2009;
- 20 • The proposed purchased-power agreement between Nova Scotia Power Inc.
21 ("NSPI") and a biomass project to be constructed at the NewPage Port
22 Hawkesbury pulp and paper mill (NSUARB P-172);
- 23 • Nova Scotia Power's proposal to build the biomass project at NewPage Port
24 Hawkesbury (NSUARB P-128.10);
- 25 • Heritage Gas's 2010 rate case (NSUARB NG-HG-R-10);

- 1 • Nova Scotia Power’s proposal to increase production depreciation rates
2 (NSUARB NSPI-P-891);
- 3 • The Board’s review of proposed feed-in tariffs for certain distribution-connected
4 renewable projects (NSUARB BRD-E-R-10);
- 5 • Nova Scotia Power’s general rate application (NSUARB NSPI P-892), with respect
6 to cost allocation and rate design;
- 7 • The Board’s review of proposed a proposed load-retention tariff and rate
8 (NSUARB NSPI P-202);
- 9 • The application of Efficiency Nova Scotia Corporation’s Electricity Demand-
10 Side Management Plan for 2013–2015;
- 11 • The Board’s review of NSPI’s 2013 Annual Capital Expenditure Plan, Matter No.
12 5339.

13 **II. Introduction and Summary**

14 **Q: On whose behalf are you testifying?**

15 A: My testimony is sponsored by the Nova Scotia Consumer Advocate.

16 **Q: What is the purpose of your testimony?**

17 A: I review the economic analysis of the South Canoe Wind project filed by NSPI as
18 Appendix J to the Application and the supporting spreadsheet (CA IR-22
19 Attachment 1.¹ In particular, I review NSPI’s treatment of the following issues in
20 the analysis:

¹The South Canoe Project comprises two sub-projects, Oxford and Minas Basin, each of which has a different lead partner. Since NSPI’s economic analysis combines the company’s share of the two sub-projects and computes a single price for its entitlement, I do not distinguish between the two parts of South Canoe.

- 1 • Administrative Overhead (AO).
2 • Allowance for Funds Used During Construction (AFUDC).
3 • The tax deduction in 2014 due to accelerated depreciation available to
4 wind projects.

5 I also discuss the ratemaking implications of these issues.

6 **Q: What are your conclusions?**

7 A: I reach the following conclusions:

- 8 • Nova Scotia Power's treatment of AO and AFUDC is inappropriate and
9 understates the revenue requirements of South Canoe.
10 • Nova Scotia Power will receive significant tax benefits in 2014 that may
11 not benefit ratepayers. To the extent that NSPI retains those benefits, the
12 revenue requirements of South Canoe will be further increased compared
13 to the analysis in Appendix J.
14 • Since the bid submitted for South Canoe to the Renewable Energy Admini-
15 strator (REA) and incorporated in the purchased-power agreements for the
16 facility was developed from the first-year price computed in Appendix J
17 (as explained at page 24 of the Application), it would be unfair to both
18 other bidders and ratepayers for NSPI to be paid more than that bid price.

19 **Q: What are your recommendations?**

20 A: I recommend that the Board require NSPI to refile the economic analysis,
21 including 100% of AO and AFUDC as costs and without any pre-operational
22 credit for these cost components.

23 Since the South Canoe bids were selected based on the weighted average
24 first-year price, including NSPI's understated revenue requirements, the Board
25 should either limit NSPI's cost recovery to the first-year price incorporated in the
26 bid (plus escalation of 20% of the price at inflation), or request that the

1 Renewable Energy Administrator (REA) rerun the procurement, to allow NSPI to
2 bid in a price sufficient to cover its full revenue requirements.

3 If the Board does not limit NSPI to the prices used by the REA in evaluating
4 the South Canoe bid, the Board should ensure that the capital -cost -allowance
5 tax deduction in 2014 will be used to reduce the revenue deferral from the
6 settlement of the 2013 General Rate Application.

7 **III. Administrative Overhead**

8 **Q: How does NSPI treat AO in the economic analysis?**

9 A: In 2013 and 2014, NSPI treats AO as a reduction in revenue requirement, as the
10 administrative and overhead costs are incurred. In other words, NSPI treats the
11 AO for South Canoe as a transfer of fixed costs out of current revenues to the
12 South Canoe project, with no incremental costs being incurred. Thereafter, NSPI
13 treats AO as a part of capital cost, which is depreciated over the book life, with a
14 return on debt and equity. For tax purposes, 30% of AO is treated as depreciable.

15 **Q: Is this treatment appropriate?**

16 A: No. Building a major project results in additional administrative and overhead
17 costs.

18 **Q: Does NSPI agree that AO is a real cost of capital additions?**

19 A: Yes. In CA IR-3 NSPI states that administrative overhead
20 is a charge to capital for a portion of costs associated with the administra-
21 tive resources used to support capital projects. As the volume of projects
22 decreases, the direct and indirect labour to execute these projects will also
23 decrease.

24 While NSPI does not directly answer the question, which asked whether the costs
25 associated with AO would have been incurred without the project, it is clear that
26 NSPI believes that the South Canoe project would increase AO costs and not

1 simply reallocate them from a fixed pool that would otherwise have been treated
2 as current expenses and revenue requirements.

3 **Q: Has NSPI provided any justification for ignoring the additional overhead**
4 **costs incurred to support capital projects, or treating overhead costs as**
5 **reducing revenue requirements?**

6 A: No.

7 **Q: Has NSPI documented the composition of the overhead costs, in support of**
8 **its positions?**

9 A: No. When asked for “a breakdown of the cost accounts included in Admini-
10 strative Overhead for this project,” NSPI provided only high-level totals for the
11 categories of “T&CS Regular Labour AO,” “T&CS Term Labour AO,” and
12 “Thermal & Hydro Contracts AO” (CA IR-2). It is not possible to determine
13 what types of costs are included in these categories.

14 **Q: Might the composition of the overhead costs justify treating part of those**
15 **costs as NSPI has treated them?**

16 A: In principle, that might be relevant. If NSPI really believed that the overhead
17 costs were fixed and independent of capital expenditures (which would be
18 inconsistent with the discovery responses I cite above), it might justify that
19 position by showing that the overhead costs comprise primarily fixed costs (e.g.,
20 software licenses, leases, return on plant, or contracts that would cover much
21 higher levels of activity without additional costs and could not be avoided by

1 lower levels of activity).² On the other hand, if the overhead costs are driven by
2 the number of employees, their compensation, the number of vehicles and the
3 amount of equipment they use, and variable costs supporting those employees,
4 then the overhead costs are incremental, as NSPI has acknowledged.

5 **Q: How should AO be treated in NSPI's capital investment modelling?**

6 A: Unless NSPI can demonstrate that a specific portion of AO allocated to capital
7 investment is fixed and independent of that investment, the entirety of AO
8 should be treated as a cash expense, included in the cash-flow analyses. In
9 revenue requirements analyses, NSPI should impute no credit for AO during
10 construction, unless it can demonstrate that the AO allocated to the capital
11 expenditure exceeds the incremental AO incurred.

12 **IV. Allowance for Funds Used During Construction**

13 **Q: How does NSPI treat AFUDC in the economic analysis?**

14 A: In 2013 and 2014, NSPI treats AFUDC as a reduction in revenue requirement as
15 carrying charges are incurred. The revenue requirements in those years are also
16 reduced by the income tax savings from the direct reduction in revenue
17 requirements. Thereafter, NSPI treats AFUDC as a part of capital cost, depreciated
18 over the book life, with a return on debt and equity. AFUDC is not deductible for
19 tax purposes.

²Even if a portion of a cost component is fixed, the total cost of that component may vary with labour and other drivers. For example, NSPI's investment in its Water Street headquarters is fixed, but incremental demand for working space for incremental employees has resulted in a request for expenditures on furniture and modifications to convert non-office space to office use (NSUARB IR-35 in Matter No. 5339), which may then increase other costs (such as off-site storage, or travel time to retrieve material from storage).

1 **Q: Is this treatment appropriate?**

2 A: No. The charges for AFUDC represent real costs that NSPI pays for the capital
3 used to finance capital expenditures during the construction period. Building
4 South Canoe will require NSPI to raise roughly \$90 million dollars on which it
5 must pay interest and dividends and earn a sufficient return to attract capital.
6 Those additional costs are incurred during construction and added to the capital
7 cost of the plant. The AFUDC costs are not reductions from revenue requirements
8 during construction.

9 **Q: How should AFUDC be treated in NSPI's capital investment modelling?**

10 A: In its revenue requirements analyses, NSPI should impute no credit for AFUDC
11 during construction.

12 **V. Tax Depreciation**

13 **Q: What is your concern with NSPI's treatment of tax depreciation for South**
14 **Canoe?**

15 A: For wind projects, a large portion of the tax depreciation is received in the year
16 the plant enters service, which in the case of South Canoe would be 2014. Rates
17 have already been set for 2014, so those tax benefits will not reduce revenues in
18 2014. As NSPI notes,

19 Per the provisions of the Board approved 2013-2014 General Rate
20 Application Settlement Agreement, to the extent these savings contribute to
21 NS Power earnings in excess of 9.25 percent over the cumulative two year
22 period, this will be returned to the benefit of customers by reducing the
23 Fixed Cost Recovery Deferral. (CA IR-6)

24 Conversely, to the extent that the tax savings do not raise the return on
25 equity above 9.25%, the tax benefits would accrue to NSPI. Thus, NSPI would
26 receive more compensation for its participation in the South Canoe project than

1 was reflected in its bid price. This inconsistency would disadvantage other
2 bidders and, depending on the cost of resources that would otherwise have been
3 selected, potentially ratepayers as well.

4 **Q: How should the Board deal with this issue?**

5 A: The Board should insure that the 2014 tax benefits flow to ratepayers, either by
6 locking in NSPI's compensation for South Canoe at its bid price (as shown at
7 page 24 of the Application), or by requiring that the entire 2014 capital-cost-
8 allowance tax benefit from South Canoe to applied to reducing the Fixed Cost
9 Recovery Deferral.

10 **Q: Does this conclude your testimony?**

11 A: Yes.

PAUL L. CHERNICK

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5 Water Street
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SUMMARY OF PROFESSIONAL EXPERIENCE

- 1986– Present* **President, Resource Insight, Inc.** Consults and testifies in utility and insurance economics. Reviews utility supply-planning processes and outcomes: assesses prudence of prior power planning investment decisions, identifies excess generating capacity, analyzes effects of power-pool-pricing rules on equity and utility incentives. Reviews electric-utility rate design. Estimates magnitude and cost of future load growth. Designs and evaluates conservation programs for electric, natural-gas, and water utilities, including hook-up charges and conservation cost recovery mechanisms. Determines avoided costs due to cogenerators. Evaluates cogeneration rate risk. Negotiates cogeneration contracts. Reviews management and pricing of district heating systems. Determines fair profit margins for automobile and workers' compensation insurance lines, incorporating reward for risk, return on investments, and tax effects. Determines profitability of transportation services. Advises regulatory commissions in least-cost planning, rate design, and cost allocation.
- 1981–86* **Research Associate, Analysis and Inference, Inc.** (Consultant, 1980–81). Researched, advised, and testified in various aspects of utility and insurance regulation. Designed self-insurance pool for nuclear decommissioning; estimated probability and cost of insurable events, and rate levels; assessed alternative rate designs. Projected nuclear power plant construction, operation, and decommissioning costs. Assessed reasonableness of earlier estimates of nuclear power plant construction schedules and costs. Reviewed prudence of utility construction decisions. Consulted on utility rate-design issues, including small-power-producer rates; retail natural-gas rates; public-agency electric rates, and comprehensive electric-rate design for a regional power agency. Developed electricity cost allocations between customer classes. Reviewed district-heating-system efficiency. Proposed power-plant performance standards. Analyzed auto-insurance profit requirements. Designed utility-financed, decentralized conservation program. Analyzed cost-effectiveness of transmission lines.
- 1977–81* **Utility Rate Analyst, Massachusetts Attorney General.** Analyzed utility filings and prepared alternative proposals. Participated in rate negotiations, discovery, cross-examination, and briefing. Provided extensive expert testimony before various regulatory agencies. Topics included demand forecasting, rate design, marginal costs, time-of-use rates, reliability issues, power-pool operations, nuclear-power cost projections, power-plant cost-benefit analysis, energy conservation, and alternative-energy development.

EDUCATION

SM, Technology and Policy Program, Massachusetts Institute of Technology, February 1978.

SB, Civil Engineering Department, Massachusetts Institute of Technology, June 1974.

HONORS

Chi Epsilon (Civil Engineering)

Tau Beta Pi (Engineering)

Sigma Xi (Research)

Institute Award, Institute of Public Utilities, 1981.

PUBLICATIONS

“Environmental Regulation in the Changing Electric-Utility Industry” (with Rachel Brailove), *International Association for Energy Economics Seventeenth Annual North American Conference* (96–105). Cleveland, Ohio: USAEE. 1996.

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

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

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

“Incorporating Environmental Externalities in Evaluation of District Heating Options” (with Emily Caverhill), *Proceedings from the International District Heating and Cooling Association 81st Annual Conference*, June 1990.

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

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“Distributed Utility Planning.” With Steve Litkovitz. Presentation to the Vermont Distributed-Utility-Planning Collaborative, November 1999.

“The Economic and Environmental Benefits of Gas IRP: FERC 636 and Beyond.” Presentation as part of the Ohio Office of Energy Efficiency’s seminar, “Gas Utility Integrated Resource Planning,” April 1994.

“Cost Recovery and Utility Incentives.” Day-long presentation as part of the Demand-Side-Management Training Institute’s workshop, “DSM for Public Interest Groups,” October 1993.

“Cost Allocation for Utility Ratemaking.” With Susan Geller. Day-long workshop for the staff of the Connecticut Department of Public Utility Control, October 1993.

“Comparing and Integrating DSM with Supply.” Day-long presentation as part of the Demand-Side-Management Training Institute’s workshop, “DSM for Public Interest Groups,” October 1993.

“DSM Cost Recovery and Rate Impacts.” Presentation as part of “Effective DSM Collaborative Processes,” a week-long training session for Ohio DSM advocates sponsored by the Ohio Office of Energy Efficiency, August 1993.

“Cost-Effectiveness Analysis.” Presentation as part of “Effective DSM Collaborative Processes,” a week-long training session for Ohio DSM advocates sponsored by the Ohio Office of Energy Efficiency, August 1993.

“Environmental Externalities: Current Approaches and Potential Implications for District Heating and Cooling” (with R. Brailove), International District Heating and Cooling Association 84th Annual Conference; June 1993.

“Using the Costs of Required Controls to Incorporate the Costs of Environmental Externalities in Non-Environmental Decision-Making.” Presentation at the American Planning Association 1992 National Planning Conference; presentation cosponsored by the Edison Electric Institute. May 1992.

“Cost Recovery and Decoupling” and “The Clean Air Act and Externalities in Utility Resource Planning” panels (session leader), DSM Advocacy Workshop; April 15 1992.

“Overview of Integrated Resources Planning Procedures in South Carolina and Critique of South Carolina Demand Side Management Programs,” Energy Planning Workshops; Columbia, S.C.; October 21 1991;

“Least Cost Planning and Gas Utilities.” Conservation Law Foundation Utility Energy Efficiency Advocacy Workshop; Boston, February 28 1991.

“Least-Cost Planning in a Multi-Fuel Context,” NARUC Forum on Gas Integrated Resource Planning; Washington, D.C., February 24 1991.

“Accounting for Externalities: Why, Which and How?” Understanding Massachusetts’ New Integrated Resource Management Rules; Needham, Massachusetts, November 9 1990.

“Increasing Market Share Through Energy Efficiency.” New England Gas Association Gas Utility Managers’ Conference; Woodstock, Vermont, September 10 1990.

“Quantifying and Valuing Environmental Externalities.” Presentation at the Lawrence Berkeley Laboratory Training Program for Regulatory Staff, sponsored by the U.S. Department of Energy’s Least-Cost Utility Planning Program; Berkeley, California, February 2 1990;

“Conservation in the Future of Natural Gas Local Distribution Companies,” District of Columbia Natural Gas Seminar; Washington, D.C., May 23 1989.

“Conservation and Load Management for Natural Gas Utilities,” Massachusetts Natural Gas Council; Newton, Massachusetts, April 3 1989.

New England Conference of Public Utilities Commissioners, Environmental Externalities Workshop; Portsmouth, New Hampshire, January 22–23 1989.

“Assessment and Valuation of External Environmental Damages,” New England Utility Rate Forum; Plymouth, Massachusetts, October 11 1985; “Lessons from Massachusetts on Long Term Rates for QFs”.

“Reviewing Utility Supply Plans,” Massachusetts Energy Facilities Siting Council; Boston, Massachusetts, May 30 1985.

“Power Plant Performance,” National Association of State Utility Consumer Advocates; Williamstown, Massachusetts, August 13 1984.

“Utility Rate Shock,” National Conference of State Legislatures; Boston, Massachusetts, August 6 1984.

“Review and Modification of Regulatory and Rate Making Policy,” National Governors’ Association Working Group on Nuclear Power Cost Overruns; Washington, D.C., June 20 1984.

“Review and Modification of Regulatory and Rate Making Policy,” Annual Meeting of the American Association for the Advancement of Science, Session on Monitoring for Risk Management; Detroit, Michigan, May 27 1983.

ADVISORY ASSIGNMENTS TO REGULATORY COMMISSIONS

District of Columbia Public Service Commission, Docket No. 834, Phase II; Least-cost planning procedures and goals; August 1987 to March 1988.

Connecticut Department of Public Utility Control, Docket No. 87-07-01, Phase 2; Rate design and cost allocations; March 1988 to June 1989.

EXPERT TESTIMONY

1. **MEFSC 78-12/MDPU 19494**, Phase I; Boston Edison 1978 forecast; Massachusetts Attorney General; June 12 1978.

Appliance penetration projections, price elasticity, econometric commercial forecast, peak demand forecast. Joint testimony with Susan C. Geller.

2. **MEFSC 78-17**; Northeast Utilities 1978 forecast; Massachusetts Attorney General; September 29 1978.

Specification of economic/demographic and industrial models, appliance efficiency, commercial model structure and estimation.

3. **MEFSC 78-33**; Eastern Utilities Associates 1978 forecast; Massachusetts Attorney General; November 27 1978.

Household size, appliance efficiency, appliance penetration, price elasticity, commercial forecast, industrial trending, peak demand forecast.

4. **MDPU 19494**; Phase II; Boston Edison Company Construction Program; Massachusetts Attorney General; April 1 1979.

Review of numerous aspects of the 1978 demand forecasts of nine New England electric utilities, constituting 92% of projected regional demand growth, and of the NEPOOL demand forecast. Joint testimony with S.C. Geller.

5. **MDPU 19494**; Phase II; Boston Edison Company Construction Program; Massachusetts Attorney General; April 1 1979.

Reliability, capacity planning, capability responsibility allocation, customer generation, co-generation rates, reserve margins, operating reserve allocation. Joint testimony with S. Finger.

6. **ASLB, NRC 50-471**; Pilgrim Unit 2, Boston Edison Company; Commonwealth of Massachusetts; June 29 1979.

Review of the Oak Ridge National Laboratory and NEPOOL demand forecast models; cost-effectiveness of oil displacement; nuclear economics. Joint testimony with S.C. Geller.

7. **MDPU 19845**; Boston Edison Time-of-Use Rate Case; Massachusetts Attorney General; December 4 1979.

Critique of utility marginal cost study and proposed rates; principles of marginal cost principles, cost derivation, and rate design; options for reconciling costs and revenues. Joint testimony with S.C. Geller. Testimony eventually withdrawn due to delay in case.

8. **MDPU 20055**; Petition of Eastern Utilities Associates, New Bedford G. & E., and Fitchburg G. & E. to purchase additional shares of Seabrook Nuclear Plant; Massachusetts Attorney General; January 23 1980.

Review of demand forecasts of three utilities purchasing Seabrook shares; Seabrook power costs, including construction cost, completion date, capacity factor, O&M expenses, interim replacements, reserves and uncertainties; alternative energy sources, including conservation, cogeneration, rate reform, solar, wood and coal conversion.

9. **MDPU 20248**; Petition of MMWEC to Purchase Additional Share of Seabrook Nuclear Plant; Massachusetts Attorney General; June 2 1980.

Nuclear power costs; update and extension of MDPU 20055 testimony.

10. **MDPU 200**; Massachusetts Electric Company Rate Case; Massachusetts Attorney General; June 16 1980.

Rate design; declining blocks, promotional rates, alternative energy, demand charges, demand ratchets; conservation: master metering, storage heating, efficiency standards, restricting resistance heating.

11. **MEFSC 79-33**; Eastern Utilities Associates 1979 Forecast; Massachusetts Attorney General; July 16 1980.

Customer projections, consistency issues, appliance efficiency, new appliance types, commercial specifications, industrial data manipulation and trending, sales and resale.

12. **MDPU 243**; Eastern Edison Company Rate Case; Massachusetts Attorney General; August 19 1980.

Rate design: declining blocks, promotional rates, alternative energy, master metering.

13. **Texas PUC 3298**; Gulf States Utilities Rate Case; East Texas Legal Services; August 25 1980.

Inter-class revenue allocations, including production plant in-service, O&M, CWIP, nuclear fuel in progress, amortization of canceled plant residential rate design; interruptible rates; off-peak rates. Joint testimony with M. B. Meyer.

14. **MEFSC 79-1**; Massachusetts Municipal Wholesale Electric Company Forecast; Massachusetts Attorney General; November 5 1980.

Cost comparison methodology; nuclear cost estimates; cost of conservation, co-generation, and solar.

15. **MDPU 472**; Recovery of Residential Conservation Service Expenses; Massachusetts Attorney General; December 12 1980.

Conservation as an energy source; advantages of per-kWh allocation over per-customer-month allocation.

16. **MDPU 535**; Regulations to Carry Out Section 210 of PURPA; Massachusetts Attorney General; January 26 1981 and February 13 1981.

Filing requirements, certification, qualifying facility (QF) status, extent of coverage, review of contracts; energy rates; capacity rates; extra benefits of QFs in specific areas; wheeling; standardization of fees and charges.

17. **MEFSC 80-17**; Northeast Utilities 1980 Forecast; Massachusetts Attorney General; March 12 1981 (not presented).

Specification process, employment, electric heating promotion and penetration, commercial sales model, industrial model specification, documentation of price forecasts and wholesale forecast.

18. **MDPU 558**; Western Massachusetts Electric Company Rate Case; Massachusetts Attorney General; May 1981.

Rate design including declining blocks, marginal cost conservation impacts, and promotional rates. Conservation, including terms and conditions limiting renewable, cogeneration, small power production; scope of current conservation program; efficient insulation levels; additional conservation opportunities.

19. **MDPU 1048**; Boston Edison Plant Performance Standards; Massachusetts Attorney General; May 7 1982.

Critique of company approach, data, and statistical analysis; description of comparative and absolute approaches to standard-setting; proposals for standards and reporting requirements.

20. **DCPSC FC785**; Potomac Electric Power Rate Case; DC People’s Counsel; July 29 1982.

Inter-class revenue allocations, including generation, transmission, and distribution plant classification; fuel and O&M classification; distribution and service allocators. Marginal cost estimation, including losses.

21. **NHPUC DE1-312**; Public Service of New Hampshire-Supply and Demand; Conservation Law Foundation, et al.; October 8 1982.

Conservation program design, ratemaking, and effectiveness. Cost of power from Seabrook nuclear plant, including construction cost and duration, capacity factor, O&M, replacements, insurance, and decommissioning.

22. **Massachusetts Division of Insurance**; Hearing to Fix and Establish 1983 Automobile Insurance Rates; Massachusetts Attorney General; October 1982.

Profit margin calculations, including methodology, interest rates, surplus flow, tax flows, tax rates, and risk premium.

23. **Illinois Commerce Commission 82-0026**; Commonwealth Edison Rate Case; Illinois Attorney General; October 15 1982.

Review of Cost-Benefit Analysis for nuclear plant. Nuclear cost parameters (construction cost, O&M, capital additions, useful life, capacity factor), risks, discount rates, evaluation techniques.

24. **New Mexico PSC 1794**; Public Service of New Mexico Application for Certification; New Mexico Attorney General; May 10 1983.

Review of Cost-Benefit Analysis for transmission line. Review of electricity price forecast, nuclear capacity factors, load forecast. Critique of company ratemaking proposals; development of alternative ratemaking proposal.

25. **Connecticut Public Utility Control Authority 830301**; United Illuminating Rate Case; Connecticut Consumers Counsel; June 17 1983.

Cost of Seabrook nuclear power plants, including construction cost and duration, capacity factor, O&M, capital additions, insurance and decommissioning.

26. **MDPU 1509**; Boston Edison Plant Performance Standards; Massachusetts Attorney General; July 15 1983.

Critique of company approach and statistical analysis; regression model of nuclear capacity factor; proposals for standards and for standard-setting methodologies.

27. **Massachusetts Division of Insurance**; Hearing to Fix and Establish 1984 Automobile Insurance Rates; Massachusetts Attorney General; October 1983.

Profit margin calculations, including methodology, interest rates.

- 28. Connecticut Public Utility Control Authority** 83-07-15; Connecticut Light and Power Rate Case; Alloy Foundry; October 3 1983.

Industrial rate design. Marginal and embedded costs; classification of generation, transmission, and distribution expenses; demand versus energy charges.

- 29. MEFSC** 83-24; New England Electric System Forecast of Electric Resources and Requirements; Massachusetts Attorney General; November 14 1983, Rebuttal, February 2 1984.

Need for transmission line. Status of supply plan, especially Seabrook 2. Review of interconnection requirements. Analysis of cost-effectiveness for power transfer, line losses, generation assumptions.

- 30. Michigan PSC** U-7775; Detroit Edison Fuel Cost Recovery Plan; Public Interest Research Group in Michigan; February 21 1984.

Review of proposed performance target for new nuclear power plant. Formulation of alternative proposals.

- 31. MDPU** 84-25; Western Massachusetts Electric Company Rate Case; Massachusetts Attorney General; April 6 1984.

Need for Millstone 3. Cost of completing and operating unit, cost-effectiveness compared to alternatives, and its effect on rates. Equity and incentive problems created by CWIP. Design of Millstone 3 phase-in proposals to protect ratepayers: limitation of base-rate treatment to fuel savings benefit of unit.

- 32. MDPU** 84-49 and 84-50; Fitchburg Gas & Electric Financing Case; Massachusetts Attorney General; April 13 1984.

Cost of completing and operating Seabrook nuclear units. Probability of completing Seabrook 2. Recommendations regarding FG&E and MDPU actions with respect to Seabrook.

- 33. Michigan PSC** U-7785; Consumers Power Fuel Cost Recovery Plan; Public Interest Research Group in Michigan; April 16 1984.

Review of proposed performance targets for two existing and two new nuclear power plants. Formulation of alternative policy.

- 34. FERC** ER81-749-000 and ER82-325-000; Montaup Electric Rate Cases; Massachusetts Attorney General; April 27 1984.

Prudence of Montaup and Boston Edison in decisions regarding Pilgrim 2 construction: Montaup's decision to participate, the Utilities' failure to review their earlier analyses and assumptions, Montaup's failure to question Edison's decisions, and the utilities' delay in canceling the unit.

- 35. Maine PUC** 84-113; Seabrook 1 Investigation; Maine Public Advocate; September 13 1984.

Cost of completing and operating Seabrook Unit 1. Probability of completing Seabrook 1. Comparison of Seabrook to alternatives. Rate effects. Recommendations regarding utility and PUC actions with respect to Seabrook.

- 36. MDPU 84-145; Fitchburg Gas and Electric Rate Case; Massachusetts Attorney General; November 6 1984.**

Prudence of Fitchburg and Public Service of New Hampshire in decision regarding Seabrook 2 construction: FGE's decision to participate, the utilities' failure to review their earlier analyses and assumptions, FGE's failure to question PSNH's decisions, and utilities' delay in halting construction and canceling the unit. Review of literature, cost and schedule estimate histories, cost-benefit analyses, and financial feasibility.

- 37. Pennsylvania PUC R-842651; Pennsylvania Power and Light Rate Case; Pennsylvania Consumer Advocate; November 1984.**

Need for Susquehanna 2. Cost of operating unit, power output, cost-effectiveness compared to alternatives, and its effect on rates. Design of phase-in and excess capacity proposals to protect ratepayers: limitation of base-rate treatment to fuel savings benefit of unit.

- 38. NHPUC 84-200; Seabrook Unit 1 Investigation; New Hampshire Public Advocate; November 15 1984.**

Cost of completing and operating Seabrook Unit 1. Probability of completing Seabrook 1. Comparison of Seabrook to alternatives. Rate and financial effects.

- 39. Massachusetts Division of Insurance; Hearing to Fix and Establish 1985 Automobile Insurance Rates; Massachusetts Attorney General; November 1984.**

Profit margin calculations, including methodology and implementation.

- 40. MDPU 84-152; Seabrook Unit 1 Investigation; Massachusetts Attorney General; December 12 1984.**

Cost of completing and operating Seabrook. Probability of completing Seabrook 1. Seabrook capacity factors.

- 41. Maine PUC 84-120; Central Maine Power Rate Case; Maine PUC Staff; December 11 1984.**

Prudence of Central Maine Power and Boston Edison in decisions regarding Pilgrim 2 construction: CMP's decision to participate, the utilities' failure to review their earlier analyses and assumptions, CMP's failure to question Edison's decisions, and the utilities' delay in canceling the unit. Prudence of CMP in the planning and investment in Sears Island nuclear and coal plants. Review of literature, cost and schedule estimate histories, cost-benefit analyses, and financial feasibility.

- 42. Maine PUC 84-113; Seabrook 2 Investigation; Maine PUC Staff; December 14 1984.**

Prudence of Maine utilities and Public Service of New Hampshire in decisions regarding Seabrook 2 construction: decisions to participate and to increase ownership share, the utilities' failure to review their earlier analyses and assumptions, failure to question PSNH's decisions, and the utilities' delay in halting construction and canceling the unit. Review of literature, cost and schedule estimate histories, cost-benefit analyses, and financial feasibility.

- 43. MDPU 1627; Massachusetts Municipal Wholesale Electric Company Financing Case; Massachusetts Executive Office of Energy Resources; January 14 1985.**

Cost of completing and operating Seabrook nuclear unit 1. Cost of conservation and other alternatives to completing Seabrook. Comparison of Seabrook to alternatives.

- 44. Vermont PSB 4936; Millstone 3; Costs and In-Service Date; Vermont Department of Public Service; January 21 1985.**

Construction schedule and cost of completing Millstone Unit 3.

- 45. MDPU 84-276; Rules Governing Rates for Utility Purchases of Power from Qualifying Facilities; Massachusetts Attorney General; March 25 1985, and October 18 1985.**

Institutional and technological advantages of Qualifying Facilities. Potential for QF development. Goals of QF rate design. Parity with other power sources. Security requirements. Projecting avoided costs. Capacity credits. Pricing options. Line loss corrections.

- 46. MDPU 85-121; Investigation of the Reading Municipal Light Department; Wilmington (MA) Chamber of Commerce; November 12 1985.**

Calculation on return on investment for municipal utility. Treatment of depreciation and debt for ratemaking. Geographical discrimination in street-lighting rates. Relative size of voluntary payments to Reading and other towns. Surplus and disinvestment. Revenue allocation.

- 47. Massachusetts Division of Insurance; Hearing to Fix and Establish 1986 Automobile Insurance Rates; Massachusetts Attorney General and State Rating Bureau; November 1985.**

Profit margin calculations, including methodology, implementation, modeling of investment balances, income, and return to shareholders.

- 48. New Mexico PSC 1833, Phase II; El Paso Electric Rate Case; New Mexico Attorney General; December 23 1985.**

Nuclear decommissioning fund design. Internal and external funds; risk and return; fund accumulation, recommendations. Interim performance standard for Palo Verde nuclear plant.

- 49. Pennsylvania PUC R-850152;** Philadelphia Electric Rate Case; Utility Users Committee and University of Pennsylvania; January 14 1986.

Limerick 1 rate effects. Capacity benefits, fuel savings, operating costs, capacity factors, and net benefits to ratepayers. Design of phase-in proposals.

- 50. MDPU 85-270;** Western Massachusetts Electric Rate Case; Massachusetts Attorney General; March 19 1986.

Prudence of Northeast Utilities in generation planning related to Millstone 3 construction: decisions to start and continue construction, failure to reduce ownership share, failure to pursue alternatives. Review of industry literature, cost and schedule histories, and retrospective cost-benefit analyses.

- 51. Pennsylvania PUC R-850290;** Philadelphia Electric Auxiliary Service Rates; Albert Einstein Medical Center, University of Pennsylvania and AMTRAK; March 24 1986.

Review of utility proposals for supplementary and backup rates for small power producers and cogenerators. Load diversity, cost of peaking capacity, value of generation, price signals, and incentives. Formulation of alternative supplementary rate.

- 52. New Mexico PSC 2004;** Public Service of New Mexico, Palo Verde Issues; New Mexico Attorney General; May 7 1986.

Recommendations for Power Plant Performance Standards for Palo Verde nuclear units 1, 2, and 3.

- 53. Illinois Commerce Commission 86-0325;** Iowa-Illinois Gas and Electric Co. Rate Investigation; Illinois Office of Public Counsel; August 13 1986.

Determination of excess capacity based on reliability and economic concerns. Identification of specific units associated with excess capacity. Required reserve margins.

- 54. New Mexico PSC 2009;** El Paso Electric Rate Moderation Program; New Mexico Attorney General; August 18 1986. (Not presented).

Prudence of EPE in generation planning related to Palo Verde nuclear construction, including failure to reduce ownership share and failure to pursue alternatives. Review of industry literature, cost and schedule histories, and retrospective cost-benefit analyses.

Recommendation for rate-base treatment; proposal of power plant performance standards.

- 55. City of Boston, Public Improvements Commission;** Transfer of Boston Edison District Heating Steam System to Boston Thermal Corporation; Boston Housing Authority; December 18 1986.

History and economics of steam system; possible motives of Boston Edison in seeking sale; problems facing Boston Thermal; information and assurances required prior to Commission approval of transfer.

- 56. Massachusetts Division of Insurance;** Hearing to Fix and Establish 1987 Automobile Insurance Rates; Massachusetts Attorney General and State Rating Bureau; December 1986 and January 1987.

Profit margin calculations, including methodology, implementation, derivation of cash flows, installment income, income tax status, and return to shareholders.

- 57. MDPU 87-19;** Petition for Adjudication of Development Facilitation Program; Hull (MA) Municipal Light Plant; January 21 1987.

Estimation of potential load growth; cost of generation, transmission, and distribution additions. Determination of hook-up charges. Development of residential load estimation procedure reflecting appliance ownership, dwelling size.

- 58. New Mexico PSC 2004;** Public Service of New Mexico Nuclear Decommissioning Fund; New Mexico Attorney General; February 19 1987.

Decommissioning cost and likely operating life of nuclear plants. Review of utility funding proposal. Development of alternative proposal. Ratemaking treatment.

- 59. MDPU 86-280;** Western Massachusetts Electric Rate Case; Massachusetts Energy Office; March 9 1987.

Marginal cost rate design issues. Superiority of long-run marginal cost over short-run marginal cost as basis for rate design. Relationship of consumer reaction, utility planning process, and regulatory structure to rate design approach. Implementation of short-run and long-run rate designs. Demand versus energy charges, economic development rates, spot pricing.

- 60. Massachusetts Division of Insurance 87-9;** 1987 Workers' Compensation Rate Filing; State Rating Bureau; May 1987.

Profit margin calculations, including methodology, implementation, surplus requirements, investment income, and effects of 1986 Tax Reform Act.

- 61. Texas PUC 6184;** Economic Viability of South Texas Nuclear Plant #2; Committee for Consumer Rate Relief; August 17 1987.

STNP operating parameter projections; capacity factor, O&M, capital additions, decommissioning, useful life. STNP 2 cost and schedule projections. Potential for conservation.

- 62. Minnesota PUC ER-015/GR-87-223; Minnesota Power Rate Case; Minnesota Department of Public Service; August 17 1987.**

Excess capacity on MP system; historical, current, and projected. Review of MP planning prudence prior to and during excess; efforts to sell capacity. Cost of excess capacity. Recommendations for ratemaking treatment.

- 63. Massachusetts Division of Insurance 87-27; 1988 Automobile Insurance Rates; Massachusetts Attorney General and State Rating Bureau; September 2 1987. Rebuttal October 8 1987.**

Underwriting profit margins. Effect of 1986 Tax Reform Act. Biases in calculation of average margins.

- 64. MDPU 88-19; Power Sales Contract from Riverside Steam and Electric to Western Massachusetts Electric; Riverside Steam and Electric; November 4 1987.**

Comparison of risk from QF contract and utility avoided cost sources. Risk of oil dependence. Discounting cash flows to reflect risk.

- 65. Massachusetts Division of Insurance 87-53; 1987 Workers' Compensation Rate Refiling; State Rating Bureau; December 14 1987.**

Profit margin calculations, including updating of data, compliance with Commissioner's order, treatment of surplus and risk, interest rate calculation, and investment tax rate calculation.

- 66. Massachusetts Division of Insurance; 1987 and 1988 Automobile Insurance Remand Rates; Massachusetts Attorney General and State Rating Bureau; February 5 1988.**

Underwriting profit margins. Provisions for income taxes on finance charges. Relationships between allowed and achieved margins, between statewide and nationwide data, and between profit allowances and cost projections.

- 67. MDPU 86-36; Investigation into the Pricing and Ratemaking Treatment to be Afforded New Electric Generating Facilities which are not Qualifying Facilities; Conservation Law Foundation; May 2 1988.**

Cost recovery for utility conservation programs. Compensating for lost revenues. Utility incentive structures.

- 68. MDPU 88-123; Petition of Riverside Steam & Electric Company; Riverside Steam and Electric Company; May 18 1988, and November 8 1988.**

Estimation of avoided costs of Western Massachusetts Electric Company. Nuclear capacity factor projections and effects on avoided costs. Avoided cost of energy interchange and power plant life extensions. Differences between median and expected oil prices. Salvage value of cogeneration facility. Off-system energy purchase projections. Reconciliation of avoided cost projection.

- 69. MDPU 88-67; Boston Gas Company; Boston Housing Authority; June 17 1988.**
Estimation of annual avoidable costs, 1988 to 2005, and levelized avoided costs. Determination of cost recovery and carrying costs for conservation investments. Standards for assessing conservation cost-effectiveness. Evaluation of cost-effectiveness of utility funding of proposed natural gas conservation measures.
- 70. Rhode Island PUC Docket 1900; Providence Water Supply Board Tariff Filing; Conservation Law Foundation, Audubon Society of Rhode Island, and League of Women Voters of Rhode Island; June 24 1988.**
Estimation of avoidable water supply costs. Determination of costs of water conservation. Conservation cost-benefit analysis.
- 71. Massachusetts Division of Insurance 88-22; 1989 Automobile Insurance Rates; Massachusetts Attorney General and State Rating Bureau; Profit Issues, August 12 1988, supplemented August 19 1988; Losses and Expenses, September 16 1988.**
Underwriting profit margins. Effects of 1986 Tax Reform Act. Taxation of common stocks. Lag in tax payments. Modeling risk and return over time. Treatment of finance charges. Comparison of projected and achieved investment returns.
- 72. Vermont PSB 5270, Module 6; Investigation into Least-Cost Investments, Energy Efficiency, Conservation, and the Management of Demand for Energy; Conservation Law Foundation, Vermont Natural Resources Council, and Vermont Public Interest Research Group; September 26 1988.**
Cost recovery for utility conservation programs. Compensation of utilities for revenue losses and timing differences. Incentive for utility participation.
- 73. Vermont House of Representatives, Natural Resources Committee; House Act 130; "Economic Analysis of Vermont Yankee Retirement"; Vermont Public Interest Research Group; February 21 1989.**
Projection of capacity factors, operating and maintenance expense, capital additions, overhead, replacement power costs, and net costs of Vermont Yankee.
- 74. MDPU 88-67, Phase II; Boston Gas Company Conservation Program and Rate Design; Boston Gas Company; March 6 1989.**
Estimation of avoided gas cost; treatment of non-price factors; estimation of externalities; identification of cost-effective conservation.
- 75. Vermont PSB 5270; Status Conference on Conservation and Load Management Policy Settlement; Central Vermont Public Service, Conservation Law Foundation, Vermont Natural Resources Council, Vermont Public Interest Research Group, and Vermont Department of Public Service; May 1 1989.**

Cost-benefit test for utility conservation programs. Role of externalities. Cost recovery concepts and mechanisms. Resource allocations, cost allocations, and equity considerations. Guidelines for conservation preapproval mechanisms. Incentive mechanisms and recovery of lost revenues.

- 76. Boston Housing Authority Court 05099; Gallivan Boulevard Task Force vs. Boston Housing Authority, et al.; Boston Housing Authority; June 16 1989.**

Effect of master-metering on consumption of natural gas and electricity. Legislative and regulatory mandates regarding conservation.

- 77. MDPU 89-100; Boston Edison Rate Case; Massachusetts Energy Office; June 30 1989.**

Prudence of BECo's decision to spend \$400 million from 1986–88 on returning the Pilgrim nuclear power plant to service. Projections of nuclear capacity factors, O&M, capital additions, and overhead. Review of decommissioning cost, tax effect of abandonment, replacement power cost, and plant useful life estimates. Requirements for prudence and used-and-useful analyses.

- 78. MDPU 88-123; Petition of Riverside Steam and Electric Company; Riverside Steam and Electric; July 24 1989. Rebuttal, October 3 1989.**

Reasonableness of Northeast Utilities' 1987 avoided cost estimates. Projections of nuclear capacity factors, economy purchases, and power plant operating life. Treatment of avoidable energy and capacity costs and of off-system sales. Expected versus reference fuel prices.

- 79. MDPU 89-72; Statewide Towing Association, Police-Ordered Towing Rates; Massachusetts Automobile Rating Bureau; September 13 1989.**

Review of study supporting proposed increase in towing rates. Critique of study sample and methodology. Comparison to competitive rates. Supply of towing services. Effects of joint products and joint sales on profitability of police-ordered towing. Joint testimony with I. Goodman.

- 80. Vermont PSB 5330; Application of Vermont Utilities for Approval of a Firm Power and Energy Contract with Hydro-Quebec; Conservation Law Foundation, Vermont Natural Resources Council, Vermont Public Interest Research Group; December 19 1989. Surrebuttal February 6 1990.**

Analysis of a proposed 450-MW, 20 year purchase of Hydro-Quebec power by twenty-four Vermont utilities. Comparison to efficiency investment in Vermont, including potential for efficiency savings. Analysis of Vermont electric energy supply. Identification of possible improvements to proposed contract.

Critique of conservation potential analysis. Planning risk of large supply additions. Valuation of environmental externalities.

- 81. MDPU 89-239; Inclusion of Externalities in Energy Supply Planning, Acquisition and Dispatch for Massachusetts Utilities; December 1989; April 1990; May 1990.**
- Critique of Division of Energy Resources report on externalities. Methodology for evaluating external costs. Proposed values for environmental and economic externalities of fuel supply and use.
- 82. California PUC; Incorporation of Environmental Externalities in Utility Planning and Pricing; Coalition of Energy Efficient and Renewable Technologies; February 21 1990.**
- Approaches for valuing externalities for inclusion in setting power purchase rates. Effect of uncertainty on assessing externality values.
- 83. Illinois Commerce Commission Docket 90-0038; Proceeding to Adopt a Least Cost Electric Energy Plan for Commonwealth Edison Company; City of Chicago; May 25 1990. Joint rebuttal testimony with David Birr, August 14 1990.**
- Problems in Commonwealth Edison's approach to demand-side management. Potential for cost-effective conservation. Valuing externalities in least-cost planning.
- 84. Maryland PSC 8278; Adequacy of Baltimore Gas & Electric's Integrated Resource Plan; Maryland Office of People's Counsel; September 18 1990.**
- Rationale for demand-side management, and BG&E's problems in approach to DSM planning. Potential for cost-effective conservation. Valuation of environmental externalities. Recommendations for short-term DSM program priorities.
- 85. Indiana Utility Regulatory Commission; Integrated Resource Planning Docket; Indiana Office of Utility Consumer Counselor; November 1 1990.**
- Integrated resource planning process and methodology, including externalities and screening tools. Incentives, screening, and evaluation of demand-side management. Potential of resource bidding in Indiana.
- 86. MDPU 89-141, 90-73, 90-141, 90-194, and 90-270; Preliminary Review of Utility Treatment of Environmental Externalities in October QF Filings; Boston Gas Company; November 5 1990.**
- Generic and specific problems in Massachusetts utilities' RFPs with regard to externality valuation requirements. Recommendations for corrections.
- 87. MEFSC 90-12/90-12A; Adequacy of Boston Edison Proposal to Build Combined-Cycle Plant; Conservation Law Foundation; December 14 1990.**
- Problems in Boston Edison's treatment of demand-side management, supply option analysis, and resource planning. Recommendations of mitigation options.
- 88. Maine PUC 90-286; Adequacy of Conservation Program of Bangor Hydro Electric; Penobscot River Coalition; February 19 1991.**

Role of utility-sponsored DSM in least-cost planning. Bangor Hydro's potential for cost-effective conservation. Problems with Bangor Hydro's assumptions about customer investment in energy efficiency measures.

- 89. Virginia State Corporation Commission** PUE900070; Order Establishing Commission Investigation; Southern Environmental Law Center; March 6 1991.

Role of utilities in promoting energy efficiency. Least-cost planning objectives of and resource acquisition guidelines for DSM. Ratemaking considerations for DSM investments.

- 90. MDPU 90-261-A;** Economics and Role of Fuel-Switching in the DSM Program of the Massachusetts Electric Company; Boston Gas Company; April 17 1991.

Role of fuel-switching in utility DSM programs and specifically in Massachusetts Electric's. Establishing comparable avoided costs and comparison of electric and gas system costs. Updated externality values.

- 91. Private arbitration;** Massachusetts Refusetech Contractual Request for Adjustment to Service Fee; Massachusetts Refusetech; May 13 1991.

NEPCo rates for power purchases from the NESWC plant. Fuel price and avoided cost projections vs. realities.

- 92. Vermont PSB 5491;** Cost-Effectiveness of Central Vermont's Commitment to Hydro Quebec Purchases; Conservation Law Foundation; July 19 1991.

Changes in load forecasts and resale markets since approval of HQ purchases. Effect of HQ purchase on DSM.

- 93. South Carolina PSC 91-216-E;** Cost Recovery of Duke Power's DSM Expenditures; South Carolina Department of Consumer Affairs; September 13 1991. Surrebuttal October 2 1991.

Problems with conservation plans of Duke Power, including load building, cream skimming, and inappropriate rate designs.

- 94. Maryland PSC 8241, Phase II;** Review of Baltimore Gas & Electric's Avoided Costs; Maryland Office of People's Counsel; September 19 1991.

Development of direct avoided costs for DSM. Problems with BG&E's avoided costs and DSM screening. Incorporation of environmental externalities.

- 95. Bucksport Planning Board;** AES/Harriman Cove Shoreland Zoning Application; Conservation Law Foundation and Natural Resources Council of Maine; October 1 1991.

New England's power surplus. Costs of bringing AES/Harriman Cove on line to back out existing generation. Alternatives to AES.

- 96. MDPU 91-131;** Update of Externalities Values Adopted in Docket 89-239; Boston Gas Company; October 4 1991. Rebuttal, December 13 1991.

Updates on pollutant externality values. Addition of values for chlorofluorocarbons, air toxics, thermal pollution, and oil import premium. Review of state regulatory actions regarding externalities.

- 97. Florida PSC 910759;** Petition of Florida Power Corporation for Determination of Need for Proposed Electrical Power Plant and Related Facilities; Floridians for Responsible Utility Growth; October 21 1991.

Florida Power's obligation to pursue integrated resource planning and failure to establish need for proposed facility. Methods to increase scope and scale of demand-side investment.

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- 107. Maryland PSC 8473**; Review of the Power Sales Agreement of Baltimore Gas and Electric with AES Northside; Maryland Office of People's Counsel; November 16 1992.

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- 110 Florida Department of Environmental Regulation** hearings on the Power Plant Siting Act; Legal Environmental Assistance Foundation, December 1992.

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- 111. Maryland PSC 8487;** Baltimore Gas and Electric Company, Electric Rate Case; January 13 1993. Rebuttal Testimony: February 4 1993.

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- 112. Maryland PSC 8179;** for Approval of Amendment No. 2 to Potomac Edison Purchase Agreement with AES Warrior Run; Maryland Office of People's Counsel; January 29 1993.

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- 125. Michigan PSC U-10671**, Detroit Edison Company DSM Programs; Michigan United Conservation Clubs. January 1995.

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- 126. Michigan PSC U-10710**, Power-supply-cost-recovery plan of Consumers Power Company; Residential Ratepayers Consortium. January 1995.

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- 139. Maryland PSC** 8720, Washington Gas Light DSM; Maryland Office of People's Counsel. May 1996.
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- Stranded costs. Calculation of loss or gain. Valuation of utility assets.
- 141. MDPU** DPU 96-70; Massachusetts Attorney General. July 1996.
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- 142. MDPU** DPU 96-60; Massachusetts Attorney General. Direct testimony, July 1996; surrebuttal, August 1996.
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- 144. New Hampshire PUC** DR 96-150, Public Service Company of New Hampshire stranded costs; New Hampshire Office of Consumer Advocate. December 1996.
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- 147. Vermont PSB** 5980, proposed statewide energy plan; Vermont Department of Public Service. Direct, August 1997; rebuttal, December 1997.

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- 148. MDPU** 96-23, Boston Edison restructuring settlement; Utility Workers Union of America. September 1997.

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- 149. Vermont PSB** 5983, Green Mountain Power rate increase; Vermont Department of Public Service. Direct, October 1997; rebuttal, December 1997.

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- 151. MDTE** 97-111, Commonwealth Energy proposed restructuring; Cape Cod Light Compact. Joint testimony with Jonathan Wallach, January 1998.

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- 152. NH PUC** Docket DR 97-241, Connecticut Valley Electric fuel and purchased-power adjustments; City of Claremont, N.H. February 1998.

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- 153. Maryland PSC** 8774; APS-DQE merger; Maryland Office of People's Counsel. February 1998.

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- 154. Vermont PSB 6018**, Central Vermont Public Service Co. rate increase; Vermont Department of Public Service. February 1998.
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- 155. Maine PUC 97-580**, Central Maine Power restructuring and rates; Maine Office of Public Advocate. May 1998; Surrebuttal, August 1998.
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- 156. MDTE 98-89**, purchase of Boston Edison municipal streetlighting, Towns of Lexington and Acton. Affidavit, August 1998.
- Valuation of municipal streetlighting; depreciation; applicability of unbundled rate.
- 157. Vermont PSB 6107**, Green Mountain Power rate increase, Vermont Department of Public Service. Direct, September 1998; Surrebuttal drafted but not filed, November 2000.
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- 158. MDTE 97-120**, Western Massachusetts Electric Company proposed restructuring; Massachusetts Attorney General. Joint testimony with Jonathan Wallach, October 1998. Joint surrebuttal with Jonathan Wallach, 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.
- 159. Maryland PSC 8794 and 8804**; BG&E restructuring and rates; Maryland Office of People's Counsel. Direct, December 1998; rebuttal, March 1999.
- Implementation of restructuring. Valuation of generation assets from comparable-sales and cash-flow analyses. Determination of stranded cost or gain.
- 160. Maryland PSC 8795**; Delmarva Power & Light restructuring and rates; Maryland Office of People's Counsel. December 1998.
- Implementation of restructuring. Valuation of generation assets and purchases from comparable-sales and cash-flow analyses. Determination of stranded cost or gain.
- 161. Maryland PSC 8797**; Potomac Edison Company restructuring and rates; Maryland Office of People's Counsel. Direct, January 1999; rebuttal, March 1999.
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- 162. Connecticut DPUC 99-02-05**; Connecticut Light and Power Company stranded costs; Connecticut Office of Consumer Counsel. April 1999.

Projections of market price. Valuation of purchase agreements and nuclear and non-nuclear assets from comparable-sales and cash-flow analyses.

- 163. Connecticut DPUC 99-03-04;** United Illuminating Company stranded costs; Connecticut Office of Consumer Counsel. April 1999.

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- 164. Washington UTC UE-981627;** PacifiCorp–Scottish Power Merger, Office of the Attorney General. June 1999.

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- 165. Utah PSC 98-2035-04;** PacifiCorp–Scottish Power Merger, Utah Committee of Consumer Services. June 1999.

Review of proposed performance standards and valuation of performance.

- 166. Connecticut DPUC 99-03-35;** United Illuminating Company proposed standard offer; Connecticut Office of Consumer Counsel. July 1999.

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- 167. Connecticut DPUC 99-03-36;** Connecticut Light and Power Company proposed standard offer; Connecticut Office of Consumer Counsel. Direct, July 1999; Supplemental, July 1999.

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- 169. Ontario Energy Board RP-1999-0034;** Ontario Performance-Based Rates; Green Energy Coalition. September 1999.

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- 170. Connecticut DPUC 99-08-01;** standards for utility restructuring; Connecticut Office of Consumer Counsel. Direct, November 1999; Supplemental January 2000.

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- 173. Ontario Energy Board RP-1999-0044;** Ontario Hydro transmission-cost allocation and rate design; Green Energy Coalition. January 2000.

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- 174. Utah PSC 99-2035-03;** PacifiCorp Sale of Centralia plant, mine, and related facilities; Utah Committee of Consumer Services. January 2000.

Prudence of sale and management of auction. Benefits to ratepayers. Allocation and rate treatment of gain.

- 175. Connecticut DPUC 99-09-12;** Nuclear Divestiture by Connecticut Light & Power and United Illuminating; Connecticut Office of Consumer Counsel. January 2000.

Market for nuclear assets. Optimal structure of auctions. Value of minority rights. Timing of divestiture.

- 176. Ontario Energy Board RP-1999-0017;** Union Gas PBR proposal; Green Energy Coalition. March 2000.

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- 177. NY PSC 99-S-1621;** Consolidated Edison steam rates; City of New York. April 2000.

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- 178. Maine PUC 99-666;** Central Maine Power alternative rate plan; Maine Public Advocate. Direct, May 2000; Surrebuttal, August 2000.

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180. Connecticut DPUC 99-09-03; Connecticut Natural Gas Corporation Merger and Rate Plan; Connecticut office of Consumer Counsel. September 2000.

Performance-based ratemaking in light of mergers. Allocation of savings from merger. Earnings-sharing mechanism.

181. Connecticut DPUC 99-09-12RE01; Proposed Millstone Sale; Connecticut Office of Consumer Counsel. November 2000.

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182. MDTE 01-25; Purchase of Streetlights from Commonwealth Electric; Cape Light Compact. January 2001

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183. Connecticut DPUC 00-12-01 and 99-09-12RE03; Connecticut Light & Power rate design and standard offer; Connecticut Office of Consumer Counsel. March 2001.

Rate design and standard offer under restructuring law; Future rate impacts; Transition to restructured regime; Comparison of Connecticut and California restructuring challenges.

184. Vermont PSB 6460 & 6120; Central Vermont Public Service rates; Vermont Department of Public Service. Direct, March 2001; Surrebuttal, April 2001.

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186. New Jersey BPU GM00080564; Public Service Electric and Gas transfer of gas supply contracts; New Jersey Ratepayer Advocate. Direct, May 2001.

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- 187. Connecticut DPUC** 99-04-18 Phase 3, 99-09-03 Phase 2; Southern Connecticut Natural Gas and Connecticut Natural Gas rates and charges; Connecticut Office of Consumer Counsel. Direct, June 2001; Supplemental, July 2001.
- Identifying, quantifying, and allocating merger-related gas-supply savings between ratepayers and shareholders. Establishing baselines. Allocations between affiliates. Unaccounted-for gas.
- 188. New Jersey BPU** EX01050303; New Jersey electric companies' procurement of basic supply; New Jersey Ratepayer Advocate. August 2001.
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- 189. NY PSC** 00-E-1208; Consolidated Edison rates; City of New York. October 2001.
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- 190. MDTE** 01-56, Berkshire Gas Company; Massachusetts Attorney General. October 2001.
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- 191. New Jersey BPU** EM00020106; Atlantic City Electric proposed sale of fossil plants; New Jersey Ratepayer Advocate. December 2001.
- Current market value of generating plants vs. proposed purchase price.
- 192. Vermont PSB** 6545; Vermont Yankee proposed sale; Vermont Department of Public Service. Direct, January 2002.
- Comparison of sales price to other nuclear sales. Evaluation of auction design and implementation. Review of auction manager's valuation of bids.
- 193. Connecticut Siting Council** 217; Connecticut Light & Power proposed transmission line from Plumtree to Norwalk; Connecticut Office of Consumer Counsel. March 2002.
- Nature of transmission problems. Potential for conservation and distributed resources to defer, reduce or avoid transmission investment. CL&P transmission planning process. Joint testimony with John Plunkett.
- 194. Vermont PSB** 6596; Citizens Utilities Rates; Vermont Department of Public Service. Direct, March 2002; Rebuttal, May 2002.
- Review of 1991 decision to commit to long-term uneconomic purchase from Hydro Québec. Alternatives; role of transmission constraints. Calculation of present damages from imprudence.

- 195. Connecticut DPUC 01-10-10;** United Illuminating rate plan; Connecticut Office of Consumer Counsel. April 2002

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- 196. Connecticut DPUC 01-12-13RE01;** Seabrook proposed sale; Connecticut Office of Consumer Counsel. July 2002

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- 197. Ontario EB RP-2002-0120;** Review of transmission-system code; Green Energy Coalition. October 2002.

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- 198. New Jersey BPU ER02080507;** Jersey Central Power & Light rates; N.J. Division of the Ratepayer Advocate. Phase I December 2002; Phase II (oral) July 2003.

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- 199. Connecticut DPUC 03-07-02;** CL&P rates; AARP. October 2003

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- 200. Connecticut DPUC 03-07-01;** CL&P transitional standard offer; AARP. November 2003.

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- 201. Vermont PSB 6596;** Vermont Electric Power Company and Green Mountain Power Northwest Reliability transmission plan; Conservation Law Foundation. December 2003.

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- 202. Ohio PUC Case 03-2144-EL-ATA;** Ohio Edison , Cleveland Electric, and Toledo Edison Cos. rates and transition charges; Green Mountain Energy Co. Direct February 2004.

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- 203. NY PSC** Cases 03-G-1671 & 03-S-1672; Consolidated Edison Company Steam and Gas Rates; City of New York. Direct March 2004; Rebuttal April 2004; Settlement June 2004.

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- 204. NY PSC** 04-E-0572; Consolidated Edison rates and performance; City of New York. Direct, September 2004; rebuttal, October 2004.

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- 205. Ontario EB** RP 2004-0188; cost recovery and DSM for Ontario electric-distribution utilities; Green Energy Coalition. Exhibit, December 2004.

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- 206. MDTE** 04-65; Cambridge Electric Light Co. streetlighting; City of Cambridge. Direct, October 2004; Supplemental January 2005.

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- 207. NY PSC** 04-W-1221; rates, rules, charges, and regulations of United Water New Rochelle; Town of Eastchester and City of New Rochelle. Direct, February 2005.

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- 208. NY PSC** 05-M-0090; system-benefits charge; City of New York. Comments, March 2005.

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- 209. Maryland PSC** 9036; Baltimore Gas & Electric rates; Maryland Office of People's Counsel. Direct, August 2005.

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- 210. British Columbia Utilities Commission** Project No. 3698388, British Columbia Hydro resource-acquisition plan; British Columbia Sustainable Energy Association and Sierra Club of Canada BC Chapter. Direct, September 2005.

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- 211. Connecticut DPUC** 05-07-18; financial effect of long-term power contracts; Connecticut Office of Consumer Counsel. Direct September 2005.

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- 212. Connecticut DPUC 03-07-01RE03 & 03-07-15RE02;** incentives for power procurement; Connecticut Office of Consumer Counsel. Direct, September 2005. Additional Testimony, April 2006.

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- 214. Ontario Energy Board Case EB-2005-0520;** Union Gas rates; School Energy Coalition. Evidence, April 2006.

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- 218. Pennsylvania PUC Docket No. R-00061366, et al.;** rate-transition-plan proceedings of Metropolitan Edison and Pennsylvania Electric; Real-time pricing; PennFuture. Direct, July 2006; surrebuttal August 2006.

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- 220. Connecticut DPUC 06-01-08;** United Illuminating procurement of power for standard service and last-resort service; Connecticut Office of Consumer Counsel. Reports and technical hearings August and November 2006; March, September, October, and November 2007; February, April, and May 2008.
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