

DOCKET NSUARB-E-ENSC-R-12

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF The Public utilities Act, RSNS 1989, c.380, as amended, and

IN THE MATTER OF An Application to Approve Efficiency Nova Scotia Corporation's Electricity Demand-Side Management (DSM) Plan for 2013–2015

DIRECT TESTIMONY OF

PAUL CHERNICK

ON BEHALF OF

THE CONSUMER ADVOCATE

Resource Insight, Inc.

MAY 21, 2012

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Exhibit PC-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 honor 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 PC-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 two U.S. Federal agencies. This testi-
8 mony 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 three score 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
19 Demand Side Management Cost Recovery Rider in May 2009.
- 20 • The proposed purchased-power agreement between Nova Scotia Power
21 Inc. ("NSPP") 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
24 Port 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-
4 connected renewable projects (NSUARB BRD-E-R-10).
- 5 • Nova Scotia Power general rate application (NSUARB NSPI P-892), with
6 respect 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 **II. Introduction and Summary**

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

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

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

13 A: I discuss and provide recommendations to the Board regarding four issues in the
14 2013–2015 DSM Plan Filing by Efficiency Nova Scotia Corporation (ENSC),
15 including the following inputs to the filing from NSPI:

- 16 • The derivation and documentation of avoided costs, which I recommend be
17 improved through a continuing consultation between NSPI and other
18 parties.
- 19 • The choice of allocator for the portion of costs allocated on system bene-
20 fits, which should use either the allocator for total generation costs from the
21 2012 or 2013 cost-of-service studies (about 83% to 86% on energy) or the
22 present value of avoided demand and energy costs (about 87% on energy).
- 23 • The allocation of what ENSC calls “enabling strategies,” for which I support
24 ENSC’s proposal.

- 1 • The reporting of bill impacts, for which I recommend enhanced reporting
2 in future ENSC filings.

3 **III. Avoided Costs**

4 **Q: What are your concerns about the avoided costs used in screening the DSM**
5 **programs?**

6 A: The avoided costs are critical in determining the cost-effectiveness of measures,
7 programs and enhancements.

8 Efficiency Nova Scotia’s filing does not include any information about
9 avoided costs. The discovery responses on avoided costs (e.g., Avon IR-9 to 13
10 and the partially confidential responses to Multeese IR-5 and 6, Synapse IR-14,
11 and Avon IR-9 and 31) have been superficial. While NSPI has provided its esti-
12 mates of fuel prices and the expansion plans for the load cases with and without
13 the DSM portfolio (and in both cases with Bowater and Paper Machine 2 at Port
14 Hawkesbury), it has not provided, for example, the following information:

- 15 • The cost of the 100 MW wind plants that NSPI assumes are avoided in
16 2015, 2017, and 2023 (Multeese IR-6, Attachment 2);
- 17 • The cost of the 280 MW combined-cycle plants delayed from 2022 to 2026
18 and avoided in 2031, or the 150 MW combined-cycle plants avoided in
19 2026 and 2027 (Multeese IR-6, Attachment 2);
- 20 • How NSPI determined the timing of the additions in the “with-DSM” and
21 “no-DSM” plans. For example, NSPI does not explain why it chose to avoid
22 the 2015 wind addition, rather than the 2014 wind addition, delaying those
23 benefits one year (Multeese IR-6, Attachment 2);
- 24 • An account of how NSPI converted the capital and operating costs of the
25 wind, combined-cycle, and biomass units to annual operating costs;

- 1 • An account of how NSPI determined the capacity portion of the avoided
2 cost (beyond the conceptual description of the avoided cost as being
3 “based on a combined cycle natural gas unit” (ENSC Multeese IR-6(a));
4 • A list of what, if any, environmental upgrades were deferred, and at what
5 cost savings.

6 The parties simply have no way of reviewing the development of the
7 avoided costs. Hence, the parties and the Board cannot reasonably review the
8 basis for the reported cost-effectiveness of the programs.

9 Even for the information that NSPI has provided, it has claimed confidential
10 treatment for information—such as projected capacity position, the capacity of
11 existing plants, and the firm capacity expected from future wind plants—that is
12 generally public information.

13 **Q: Are there any areas in which you can identify the need for improvements in**
14 **NSPI’s estimates of avoided costs?**

15 A: Yes. Even from the limited documentation available, there are some apparent
16 errors in the avoided-cost development, including the following:

- 17 • The avoided costs omit all load-related transmission and distribution costs.
18 (ENSC Synapse IR 14d) Energy efficiency reduces the need for investments
19 in both transmission and distribution plant. Those avoided investments
20 often result in avoided maintenance costs as well.
- 21 • The avoided costs are based on the premise that NSPI would be building
22 200 MW of wind by 2015 to meet the RES without the DSM plan and 100
23 MW with DSM (Multeese IR-6c, Attachment 2). As the Consumer Advocate
24 has shown in the Renewable RFP docket (Comments of March 21, 2012),
25 the existing and committed renewable resources, plus the renewable energy
26 that the Renewable Energy Administrator has proposed to force upon NSPI

1 through the pending Renewable RFP, would far exceed NSPI's projected
2 RES requirements for 2015, given the energy savings from the DSM plan.¹ It
3 is not clear that NSPI would need to build any new wind to meet the RES,
4 even without the DSM program.

- 5 • On the other hand, NSPI has not reflected the value of selling excess RES
6 credits to New England. Massachusetts Renewable Energy Credits for
7 2012, 2013 and 2014 are currently trading for about \$59/MWh, \$55/MWh
8 and \$45/MWh respectively, with pricing trending upward over time. Lower
9 loads in Nova Scotia will allow NSPI to sell more of those credits,
10 offsetting much of the costs of those excess renewable supplies.
- 11 • It appears that NSPI treated the full fixed cost of a new combined-cycle
12 plant as demand related (ENSC Multeese IR-6a), when a significant portion
13 of the cost is incurred to provide energy at lower costs (as exemplified by
14 Tufts Cove 6). Unfortunately, NSPI has not provided any derivation of the
15 annual avoided demand costs, so the parties and Board can only speculate
16 as to how NSPI estimated the capital and operating costs of the new
17 combined-cycle.
- 18 • The estimates of line losses appear to be based on average losses, rather
19 than the generally higher marginal losses resulting from the fact that losses
20 rise with the square of current flowing through a conductor. This error is
21 particularly serious since NSPI has assumed that the T&D system would not
22 require any additional reinforcements in the absence of the DSM savings.
23 With higher loads on the same equipment, the incremental losses would be
24 higher than the existing average losses.

¹Staff from NSPI appeared to agree with this projection in the May 15, 2012 briefing on the Port Hawkesbury Load-Retention Tariff.

- 1 • The avoided costs are not differentiated by season or time of day. Some
2 loads are more expensive to serve than others, and ENSC should have
3 avoided costs that reflect the greater value of saving energy from winter
4 uses than summer uses, and from on-peak uses than from outdoor lighting.

5 **Q: Why does ENSC exclude the avoided costs of transmission and distribution?**

6 A: That is difficult to determine from the record in this case. On the one hand,
7 ENSC, perhaps quoting NSPI, dismisses the possibility that reducing or
8 eliminating load growth would avoid any T&D:

9 Full avoided transmission and distribution avoided costs are considered
10 relatively minor at this time as compared to the estimated avoided energy
11 and capacity costs. DSM programs are generally not geographically directed
12 in a manner that would deliver results at the distribution level in specific
13 areas of high load growth. It is unlikely that physical plant upgrades
14 required for load alone could be avoided or significantly postponed. This
15 may change in the future as T&D expansion plans are updated and
16 reviewed. (ENSC Synapse IR 14(d))

17 This position is frequently taken by utilities, especially by the transmission-
18 and-distribution planners, who are often reluctant to believe that the projects in
19 their preferred plan can be avoided by efficiency technologies they do not
20 control or understand. Since most major feeder and substation projects, and
21 many replacements of overloaded or failed line transformers are due to load
22 levels, a large portion of T&D investments are avoidable through energy
23 efficiency.

24 Indeed, ENSC appears to recognize that avoided T&D costs should be
25 included in the avoided costs, in its justification of a program that ENSC says
26 “*appears marginal*” (emphasis in the original), noting that its

1 current method of calculating TRC is conservative and may need to evolve
2 in the future. In 2012, ENSC engaged Dunsky Energy Consulting to report
3 on the methods used in other 4 jurisdictions, which include: Accounting for
4 avoided cost benefits associated with upgrading utility transmission &
5 distribution capacity.... (ENSC Avon IR-11)

6 **Q: What is your recommendation regarding avoided costs?**

7 A: I recommend that the Board direct NSPI to work with the parties to document
8 and improve the determination of avoided cost, leading to a filing with the
9 Board in 2013. At that time, ENSC should address whether the changes in
10 avoided costs warrant any mid-course corrections in program designs (with due
11 concern for continuity) and file a report with the Board accordingly.

12 **IV. Allocation of System Benefits**

13 **Q: How does ENSC propose to allocate the costs of energy-efficiency programs
14 that can be tied to particular classes?**

15 A: In keeping with the 2009 Settlement Agreement, ENSC proposes to allocate 75%
16 of those program costs to the class or classes participating in each program, and
17 the remaining 25% “allocated on the basis of system benefits” (ENSC Evidence
18 p. 31). This split of the costs between the participating class and the system is
19 reasonable.

20 This balance reflects the fact that DSM reduces total system costs and
21 particularly reduces the bills of the participating class. Even though all
22 customers will benefit through lower fuel prices and reduced investment
23 requirements, the participating classes benefit more. The participating customers
24 will pay lower bills until the next rate case, and will be allocated a smaller share
25 of revenue requirements in the next case, due to their lower loads. Hence, direct

1 assignment for a large share of costs makes sense in terms of the incidence of
2 benefits.

3 Direct assignment also focuses the attention of each class (and its repre-
4 sentatives in the ratemaking process) on improving the incentive levels, effi-
5 ciency and cost-effectiveness of the designs of the program that serve that class.

6 **Q: Has ENSC proposed to allocate properly the portion directly assigned to**
7 **classes?**

8 A: Yes. The costs would be allocated in proportion to participating class benefits,
9 so that a program serving more than one class would be allocated in proportion
10 to energy savings or other relevant measures of benefits.

11 **Q: Has ENSC proposed to allocate properly to classes the costs that are**
12 **attributed to system benefits?**

13 A: No. The allocator that ENSC has selected reflects only a small part of the system
14 benefits for DSM. The allocator that ENSC uses for system benefits is the
15 allocator for generation plant rate base in the 2011 Base Cost of Fuel Compli-
16 ance Filing (Revised Appendix C, Attachment 1-1). This allocator classifies
17 66.51% of the system benefit to energy, and 33.49% to 3 CP demand.

18 Energy-efficiency programs reduce a wide range of system costs, including
19 generation rate base (for new plants and usage-related investments in existing
20 plants, such as for environmental upgrades that would be needed with higher
21 loads) and also the following costs:

- 22 • fuel
- 23 • variable generation O&M
- 24 • fixed generation O&M for new units
- 25 • purchased power, principally for renewable energy
- 26 • load-related transmission investment

- 1 • load-related distribution investment

2 The avoided costs used for screening DSM do not reflect any avoided
 3 transmission or distribution costs, so including those costs in the system-benefit
 4 allocator in this proceeding is probably inappropriate.²

5 Looking just at generation costs, the current cost-of-service study reports
 6 that 83% of generation costs are energy-related.

7 **Table 1: Embedded Allocation of Generation Costs** (thousands of dollars)

	Total		Demand		Energy	
			\$1000	%	\$1000	%
<i>Generation-Related</i>	\$917,570		\$155,095	16.9%	\$762,476	83.1%

8 *Source:* SR01 (the COS study), Exhibit 5 in the 2013 GRA

9 The comparable figure in the 2012 GRA was 86% energy-related. Accord-
 10 ing to ENSC, it wished to exclude from the allocation “deferred costs and working
 11 capital” (ENSC CA IR-34). Exhibit 5 of the GRA filing does not identify working
 12 capital, but the deferrals in Exhibit 5 are less than \$16 million (about 2% of the
 13 generation revenue requirement), and are allocated about 70% on energy;
 14 excluding those deferrals would slightly increase the energy-allocated portion of
 15 the remaining costs, to 83.3% of generation costs. Adjusting for working capital
 16 by reducing the items related to carrying-cost (interest, dividends, corporate
 17 taxes and return), allocated 90% to energy (reflecting the allocation of deferrals
 18 and working capital in Exhibit 2B of the COSS), leaves 83.2% of generation
 19 costs as energy-related.

²The savings from avoided distribution costs are shared in different ways by different classes, since some classes use secondary and primary distribution, most use primary distribution, and the large industrial class is served directly from transmission. Hence, trying to allocate costs based on distribution benefits would be very complicated, requiring different functionalization for each class’s programs. Since 75% of DSM costs are assigned to the class(es) participating in each program, further reflection of the distribution costs in the system allocation seems needlessly complex.

1 **Table 2:**
 2 **Effect of Deferrals and Working Capital on Allocation of Generation Costs**

	Total	Demand	Energy	% Energy
<i>Total Generation Cost^a</i>	\$917,571	\$155,095	\$762,476	83.1%
<i>FCR Deferral, DSM Amortization^b</i>	\$15,591	\$4,742	\$10,850	69.6%
<i>Return on Deferrals and Working Capital^c</i>	\$16,504	\$1,650	\$14,853	90.0%
<i>Generation Cost Net of Deferrals and Working Capital^d</i>	\$885,476	\$148,703	\$736,773	83.2%

Notes:

^{a,b}From Exhibit 5, 2013 COSS (SR01, 2013 GRA).

^c8.13% of the interest, dividends, taxes and return lines from Exhibit 5, 2013 GRA.

^dTotal generation cost minus "FCR Deferral, DSM Amortization" and "Generation Cost Net of Deferrals and Working Capital."

3 Hence, on an embedded-cost basis, the allocation of system benefits should
 4 be about 83% on energy, rather than the 66.5% proposed by ENSC.

5 **Q: Is there an alternative approach to allocating the portion of costs in propor-**
 6 **tion to system benefits, other than using the energy/demand allocation in**
 7 **the COSS?**

8 **A:** Yes. An alternative approach would be to allocate the system-benefits portion of
 9 the cost in proportion to the anticipated benefits of the DSM portfolio. While
 10 NSPI has asked that its projection of annual avoided costs be treated as confi-
 11 dential, the levelized capacity and energy values are public (ENSC Multeese IR-
 12 5, Attachment 1, Page 3), as are the projected energy and demand savings (ENSC
 13 Multeese IR-6, Attachment 1). Combining those projected savings with the an-
 14 nual avoided costs (from ENSC Multeese IR-5 Attachment 2, or Synapse IR-14b
 15 Confidential Attachment 2), and present-valuing at the 6.81% discount rate used
 16 by ENSC and NSPI (ENSC Synapse IR-8), 87% of the avoided costs are due to
 17 energy benefits, and only 13% due to avoided capacity. Even that capacity
 18 percentage is probably overstated, since (as I describe above) NSPI appears to be
 19 assuming that the entire cost of a new combined-cycle plant would be due to
 20 demand.

1 **Q: What is your recommendation regarding the allocation of the 25% of costs**
2 **that are allocated on system benefits**

3 A: The system-benefits portion of costs should be allocated 83%–87% on energy,
4 rather than the 66.51% used in the ENSC filing. While I believe that the avoided-
5 cost methodology (implying that 87% of the system benefits are related to
6 energy) is more appropriate, the Board might reasonably rely on the 83%
7 resulting from the embedded-cost approach.

8 **V. Allocation of Enabling Strategies**

9 **Q: How has ENSC proposed to allocate the costs of what it calls “Enabling**
10 **Strategies”?**

11 A: The Enabling Strategies are a set of activities - education, outreach, research,
12 development, financing, capacity building, and coordination with governmental
13 bodies - that support the direct delivery programs, but do not directly reduce
14 energy usage. Efficiency Nova Scotia proposes to allocate these costs as it does
15 direct program costs, 75% to the participating classes and 25% on system
16 benefits. Where ENSC cannot identify the participating classes (because of the
17 early stage of development of a technique or technology that may be useful in
18 many programs, or the broad reach of an outreach campaign), it proposes to
19 allocate those costs in proportion to costs directly allocated to classes.

20 This is a reasonable approach. Where an activity addresses a specific pro-
21 gram (such as visits to local chambers of commerce to promote small and
22 medium general-service programs), the cost should be directly assigned.
23 Similarly, most development and research projects will be associated with
24 specific customer classes and can be directly assigned.

1 Other activities, such as general radio and press advertising, may attract the
2 interest of residential customers, small-business owners, building and plant
3 managers, contractors, corporate executives, board members of corporations and
4 non-profits, and other people who affect the participation of all classes of con-
5 sumers. Those costs should be allocated in proportion to program activity, which
6 can be measured as spending (as ENSC proposes) or savings (which has the
7 disadvantage of being subject to revision as evaluation results become
8 available).

9 Similarly, some research-and-development projects may involve tech-
10 nologies that can be applied to multiple classes. If so, the associated costs
11 should be allocated among classes in proportion to some proxy of the potential
12 benefits to the classes. In principle, for example, the costs of testing an indoor
13 lighting technology might be allocated among all classes in proportion to their
14 indoor lighting use. This end-use approach to cost allocation would not be
15 applicable to all projects, and would require end-use data that are not readily
16 available. The allocation method proposed by ENSC appears to be a reasonable
17 simplification.

18 **Q: How were these costs allocated in the 2011 and 2012 DSM plans?**

19 A: The costs of these activities were previously allocated on customer number,
20 which is not appropriate. Customer number does not drive the cost of any of the
21 supporting activities.

22 **Q: What is your recommendation regarding the allocation of Enabling**
23 **Strategies?**

24 A: I recommend that the Board accept ENSC's proposal.

1 **VI. Reporting of Bill Effects**

2 **Q: Did ENSC's filing in this proceeding report the effect of the DSM programs**
3 **on ratepayers in various classes?**

4 A: In part. Appendix C, Attachment 3, of the filing provides estimates of the change
5 in typical bills for each class due to recovery of the DSM costs, but these
6 comparisons do not reflect any reduction in consumption for those typical
7 customers, or any reduction in other components of the rates to reflect lower
8 fuel costs and lower investments from the DSM programs.

9 **Q: What do you recommend regarding the reporting of DSM bill effects?**

10 A: In future filings of bill effects of the DSM portfolio, ENSC should show the effect
11 of the program on average consumption and the typical customer's share of total
12 revenue requirements, as well as the effect of recovering DSM program costs.

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

14 A: Yes.

PAUL L. CHERNICK

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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.

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“A Utility Planner’s Checklist for Least-Cost Efficiency Investment” (with John Plunkett) in *Proceedings from the NARUC Biennial Regulatory Information Conference*, September 1990.

Environmental Costs of Electricity (with Richard Ottinger et al.). Oceana; Dobbs Ferry, New York: September 1990.

“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.

“A Utility Planner’s Checklist for Least-Cost Efficiency Investment,” (with John Plunkett), *Proceedings from the Canadian Electrical Association Demand-Side Management Conference*, June 1990.

“Incorporating Environmental Externalities in Utility Planning” (with Emily Caverhill), *Canadian Electrical Association Demand Side Management Conference*, May 1990.

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

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

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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.

- 98. Florida PSC 910833-EI;** Petition of Tampa Electric Company for a Determination of Need for Proposed Electrical Power Plant and Related Facilities; Floridians for Responsible Utility Growth; October 31 1991.

Tampa Electric'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.

- 99. Pennsylvania PUC I-900005, R-901880;** Investigation into Demand Side Management by Electric Utilities; Pennsylvania Energy Office; January 10 1992.

Appropriate cost recovery mechanism for Pennsylvania utilities. Purpose and scope of direct cost recovery, lost revenue recovery, and incentives.

- 100. South Carolina PSC 91-606-E;** Petition of South Carolina Electric and Gas for a Certificate of Public Convenience and Necessity for a Coal-Fired Plant; South Carolina Department of Consumer Affairs; January 20 1992.

Justification of plant certification under integrated resource planning. Failures in SCE&G's DSM planning and company potential for demand-side savings.

- 101. MDPU 92-92;** Adequacy of Boston Edison's Street-Lighting Options; Town of Lexington; June 22 1992.

Efficiency and quality of street-lighting options. Boston Edison's treatment of high-quality street lighting. Corrected rate proposal for the Daylux lamp. Ownership of public street lighting.

- 102. South Carolina PSC 92-208-E;** Integrated Resource Plan of Duke Power Company; South Carolina Department of Consumer Affairs; August 4 1992.

Problems with Duke Power's DSM screening process, estimation of avoided cost, DSM program design, and integration of demand-side and supply-side planning.

- 103. North Carolina Utilities Commission E-100, Sub 64;** Integrated Resource Planning Docket; Southern Environmental Law Center; September 29 1992.

General principles of integrated resource planning, DSM screening, and program design. Review of the IRPs of Duke Power Company, Carolina Power & Light Company, and North Carolina Power.

- 104. Ontario Environmental Assessment Board** Ontario Hydro Demand/Supply Plan Hearings; *Environmental Externalities Valuation and Ontario Hydro's Resource Planning* (3 vols.); October 1992.

Valuation of environmental externalities from fossil fuel combustion and the nuclear fuel cycle. Application to Ontario Hydro's supply and demand planning.

- 105. Texas PUC 110000**; Application of Houston Lighting and Power Company for a Certificate of Convenience and Necessity for the DuPont Project; Destec Energy, Inc.; September 28 1992.

Valuation of environmental externalities from fossil fuel combustion and the application to the evaluation of proposed cogeneration facility.

- 106. Maine Board of Environmental Protection**; In the Matter of the Basin Mills Hydroelectric Project Application; Conservation Intervenors; November 16 1992.

Economic and environmental effects of generation by proposed hydro-electric project.

- 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.

Non-price scoring and unquantified benefits; DSM potential as alternative; environmental costs; cost and benefit estimates.

- 108. North Carolina Utilities Commission E-100, Sub 64**; Analysis and Investigation of Least Cost Integrated Resource Planning in North Carolina; Southern Environmental Law Center; November 18 1992.

Demand-side management cost recovery and incentive mechanisms.

- 109. South Carolina PSC 92-209-E**; In Re Carolina Power & Light Company; South Carolina Department of Consumer Affairs; November 24 1992.

DSM planning: objectives, process, cost-effectiveness test, comprehensiveness, lost opportunities. Deficiencies in CP&L's portfolio. Need for economic evaluation of load building.

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

Externality valuation and application in power-plant siting. DSM potential, cost-benefit test, and program designs.

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

Class allocation of production plant and O&M; transmission, distribution, and general plant; administrative and general expenses. Marginal cost and rate design.

- 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.

Economic analysis of proposed coal-fired cogeneration facility.

- 113. Michigan PSC U-10102;** Detroit Edison Rate Case; Michigan United Conservation Clubs; February 17 1993.

Least-cost planning; energy efficiency planning, potential, screening, avoided costs, cost recovery, and shareholder incentives.

- 114. Ohio PUC 91-635-EL-FOR, 92-312-EL-FOR, 92-1172-EL-ECP;** Cincinnati Gas and Electric demand-management programs; City of Cincinnati. April 1993.

DSM planning, program designs, potential savings, and avoided costs.

- 115. Michigan PSC U-10335;** Consumers Power Rate Case; Michigan United Conservation Clubs; October 1993.

Least-cost planning; energy efficiency planning, potential, screening, avoided costs, cost recovery, and shareholder incentives.

- 116. Illinois Commerce Commission 92-0268,** Electric-Energy Plan for Commonwealth Edison; City of Chicago. Direct testimony, February 1 1994; rebuttal, September 1994.

Cost-effectiveness screening of demand-side management programs and measures; estimates by Commonwealth Edison of costs avoided by DSM and of future cost, capacity, and performance of supply resources.

- 117. FERC 2422 et al.,** Application of James River–New Hampshire Electric, Public Service of New Hampshire, for Licensing of Hydro Power; Conservation Law Foundation; 1993.

Cost-effective energy conservation available to the Public Service of New Hampshire; power-supply options; affidavit.

- 118. Vermont PSB 5270-CV-1,-3, and 5686;** Central Vermont Public Service Fuel-Switching and DSM Program Design, on behalf of the Vermont Department of Public Service. Direct, April 1994; rebuttal, June 1994.

Avoided costs and screening of controlled water-heating measures; risk, rate impacts, participant costs, externalities, space- and water-heating load, benefit-cost tests.

- 119. Florida PSC 930548-EG–930551–EG**, Conservation goals for Florida electric utilities; Legal Environmental Assistance Foundation, Inc. April 1994.

Integrated resource planning, avoided costs, rate impacts, analysis of conservation goals of Florida electric utilities.

- 120. Vermont PSB 5724**, Central Vermont Public Service Corporation rate request; Vermont Department of Public Service. Joint surrebuttal testimony with John Plunkett. August 1994.

Costs avoided by DSM programs; Costs and benefits of deferring DSM programs.

- 121. MDPU 94-49**, Boston Edison integrated resource-management plan; Massachusetts Attorney General. August 1994.

Least-cost planning, modeling, and treatment of risk.

- 122. Michigan PSC U-10554**, Consumers Power Company DSM Program and Incentive; Michigan Conservation Clubs. November 1994.

Critique of proposed reductions in DSM programs; discussion of appropriate measurements of cost-effectiveness, role of DSM in competitive power markets.

- 123. Michigan PSC U-10702**, Detroit Edison Company Cost Recovery, on behalf of the Residential Ratepayers Consortium. December 1994.

Impact of proposed changes to DSM plan on energy costs and power-supply-cost-recovery charges. Critique of proposed DSM changes; discussion of appropriate measurements of cost-effectiveness, role of DSM in competitive power markets.

- 124. New Jersey Board of Regulatory Commissioners EM92030359**, Environmental costs of proposed cogeneration; Freehold Cogeneration Associates. November 1994.

Comparison of potential externalities from the Freehold cogeneration project with that from three coal technologies; support for the study “The Externalities of Four Power Plants.”

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

Critique of proposal to scale back DSM efforts in light of potential for competition. Loss of savings, increase of customer costs, and decrease of competitiveness. Discussion of appropriate measurements of cost-effectiveness, role of DSM in competitive power markets.

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

Impact of proposed changes to DSM plan on energy costs and power-supply-cost-recovery charges. Critique of proposed DSM changes; discussion of appropriate measurements of cost-effectiveness, role of DSM in competitive power markets.

- 127. FERC 2458 and 2572, Bowater–Great Northern Paper hydropower licensing; Conservation Law Foundation. February 1995.**

Comments on draft environmental impact statement relating to new licenses for two hydropower projects in Maine. Applicant has not adequately considered how energy conservation can replace energy lost due to habitat-protection or -enhancement measures.

- 128. North Carolina Utilities Commission E-100, Sub 74, Duke Power and Carolina Power & Light avoided costs; Hydro-Electric–Power Producer’s Group. February 1995.**

Critique and proposed revision of avoided costs offered to small hydro-power producers by Duke Power and Carolina Power and Light.

- 129. New Orleans City Council UD-92-2A and -2B, Least-cost IRP for New Orleans Public Service and Louisiana Power & Light; Alliance for Affordable Energy. Direct, February 1995; rebuttal, April 1995.**

Critique of proposal to scale back DSM efforts in light of potential competition.

- 130. DCPSC Formal 917, II, Prudence of DSM expenditures of Potomac Electric Power Company; Potomac Electric Power Company. Rebuttal testimony, February 1995.**

Prudence of utility DSM investment; prudence standards for DSM programs of the Potomac Electric Power Company.

- 131. Ontario Energy Board EBRO 490, DSM cost recovery and lost-revenue–adjustment mechanism for Consumers Gas Company; Green Energy Coalition. April 1995.**

DSM cost recovery. Lost-revenue–adjustment mechanism for Consumers Gas Company.

- 132. New Orleans City Council CD-85-1, New Orleans Public Service rate increase; Alliance for Affordable Energy. Rebuttal, May 1995.**

Allocation of costs and benefits to rate classes.

- 133. MDPUC Docket DPU-95-40, Mass. Electric cost-allocation; Massachusetts Attorney General. June 1995.**

Allocation of costs to rate classes. Critique of cost-of-service study. Implications for industry restructuring.

- 134. Maryland PSC 8697, Baltimore Gas & Electric gas rate increase; Maryland Office of People’s Counsel. July 1995**

Rate design, cost-of-service study, and revenue allocation.

- 135. North Carolina Utilities Commission E-2, Sub 669. December 1995.**

Need for new capacity. Energy-conservation potential and model programs.

- 136. Arizona Commerce Commission** U-1933-95-317, Tucson Electric Power rate increase; Residential Utility Consumer Office. January 1996.
- Review of proposed rate settlement. Used-and-usefulness of plant. Rate design. DSM potential.
- 137. Ohio PUC** 95-203-EL-FOR; Campaign for an Energy-Efficient Ohio. February 1996
- Long-term forecast of Cincinnati Gas and Electric Company, especially its DSM portfolio. Opportunities for further cost-effective DSM savings. Tests of cost effectiveness. Role of DSM in light of industry restructuring; alternatives to traditional utility DSM.
- 138 Vermont PSB** 5835; Vermont Department of Public Service. February 1996.
- Design of load-management rates of Central Vermont Public Service Company.
- 139. Maryland PSC** 8720, Washington Gas Light DSM; Maryland Office of People's Counsel. May 1996.
- Avoided costs of Washington Gas Light Company; integrated least-cost planning.
- 140. MDPU** DPU 96-100; Massachusetts Utilities' Stranded Costs; Massachusetts
- A.** Attorney General. Oral testimony in support of "estimation of Market Value, Stranded Investment, and Restructuring Gains for Major Massachusetts Utilities," July 1996.
- Stranded costs. Calculation of loss or gain. Valuation of utility assets.
- 141. MDPU** DPU 96-70; Massachusetts Attorney General. July 1996.
- Market-based allocation of gas-supply costs of Essex County Gas Company.
- 142. MDPU** DPU 96-60; Massachusetts Attorney General. Direct testimony, July 1996; surrebuttal, August 1996.
- Market-based allocation of gas-supply costs of Fall River Gas Company.
- 143. Maryland PSC** 8725; Maryland Office of People's Counsel. July 1996.
- Proposed merger of Baltimore Gas & Electric Company, Potomac Electric Power Company, and Constellation Energy. Cost allocation of merger benefits and rate reductions.
- 144. New Hampshire PUC** DR 96-150, Public Service Company of New Hampshire stranded costs; New Hampshire Office of Consumer Advocate. December 1996.
- Market price of capacity and energy; value of generation plant; restructuring gain and stranded investment; legal status of PSNH acquisition premium; interim stranded-cost charges.
- 145. Ontario Energy Board** EBRO 495, LRAM and shared-savings incentive for DSM performance of Consumers Gas; Green Energy Coalition. March 1997.

LRAM and shared-savings incentive mechanisms in rates for the Consumers Gas Company Ltd.

- 146. New York PSC** Case 96-E-0897, Consolidated Edison restructuring plan; City of New York. April 1997.

Electric-utility competition and restructuring; critique of proposed settlement of Consolidated Edison Company; stranded costs; market power; rates; market access.

- 147. Vermont PSB** 5980, proposed statewide energy plan; Vermont Department of Public Service. Direct, August 1997; rebuttal, December 1997.

Justification for and estimation of statewide avoided costs; guidelines for distributed IRP.

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

Performance incentives proposed for the Boston Edison company.

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

In three separate pieces of prefiled testimony, addressed the Green Mountain Power Corporation's (1) distributed-utility-planning efforts, (2) avoided costs, and (3) prudence of decisions relating to a power purchase from Hydro-Quebec.

- 150. MDPU** 97-63, Boston Edison proposed reorganization; Utility Workers Union of America. October 1997.

Increased costs and risks to ratepayers and shareholders from proposed reorganization; risks of diversification; diversion of capital from regulated to unregulated affiliates; reduction in Commission authority.

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

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

Prudence of continued power purchase from affiliate; market cost of power; prudence disallowances and cost-of-service ratemaking.

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

Power-supply arrangements between APS's operating subsidiaries; power-supply savings; market power.

- 154. Vermont PSB 6018**, Central Vermont Public Service Co. rate increase; Vermont Department of Public Service. February 1998.
- Prudence of decisions relating to a power purchase from Hydro-Quebec. Reasonableness of avoided-cost estimates. Quality of DU planning.
- 155. Maine PUC 97-580**, Central Maine Power restructuring and rates; Maine Office of Public Advocate. May 1998; Surrebuttal, August 1998.
- Determination of stranded costs; gains from sales of fossil, hydro, and biomass plant; treatment of deferred taxes; incentives for stranded-cost mitigation; rate design.
- 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.
- Prudence of decisions relating to a power purchase from Hydro-Quebec. Least-cost planning and prudence. Quality of DU planning.
- 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.
- Implementation of restructuring. Valuation of generation assets and purchases from comparable-sales and cash-flow analyses. Determination of stranded cost or gain.
- 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.

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

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

Review of proposed performance standards and valuation of performance. Review of proposed low-income assistance.

- 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.

Design of standard offer by rate class. Design of price adjustments to preserve rate decrease. Market valuations of nuclear plants. Short-term stranded cost

- 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.

Design of standard offer by rate class. Design of price adjustments to preserve rate decrease. Market valuations of nuclear plants. Short-term stranded cost.

- 168. W. Virginia PSC 98-0452-E-GI;** electric-industry restructuring, West Virginia Consumer Advocate. July 1999.

Market value of generating assets of, and restructuring gain for, Potomac Edison, Monongahela Power, and Appalachian Power. Comparable-sales and cash-flow analyses.

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

Rate design. Recovery of demand-side-management costs under PBR. Incremental costs.

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

Appropriate role of regulation. T&D reliability and service quality. Performance standards and customer guarantees. Assessing generation adequacy in a competitive market.

- 171. Connecticut Superior Court CV 99-049-7239;** Connecticut Light and Power Company stranded costs; Connecticut Office of Consumer Counsel. Affidavit, December 1999.

Errors of the CDPUC in deriving discounted-cash-flow valuations for Millstone and Seabrook, and in setting minimum bid price.

- 172. Connecticut Superior Court CV 99-049-7597;** United Illuminating Company stranded costs; Connecticut Office of Consumer Counsel. December 1999.

Errors of the CDPUC, in its discounted-cash-flow computations, in selecting performance assumptions for Seabrook, and in setting minimum bid price.

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

Cost allocation and rate design. Net vs. gross load billing. Export and wheeling-through transactions. Environmental implications of utility proposals.

- 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.

Lost-revenue-adjustment and shared-savings incentive mechanisms for Union Gas DSM programs. Standards for review of targets and achievements, computation of lost revenues. Need for DSM expenditure true-up mechanism.

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

Allocation of costs of former cogeneration plants, and of net proceeds of asset sale. Economic justification for steam-supply plans. Depreciation rates. Weather normalization and other rate adjustments.

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

Likely merger savings. Savings and rate reductions from recent mergers. Implications for rates.

179. MEFSB 97-4; MMWEC gas-pipeline proposal; Town of Wilbraham, Mass. June 2000.

Economic justification for natural-gas pipeline. Role and jurisdiction of EFSB.

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.

Requirements for review of auction of generation assets. Allocation of proceeds between units.

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

Municipal purchase of streetlights; Calculation of purchase price under state law; Determination of accumulated depreciation by asset.

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.

Review of decision in early 1990s to commit to long-term uneconomic purchase from Hydro Québec. Calculation of present damages from imprudence.

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