### NSUARB M07611

# NOVA SCOTIA UTILITY AND REVIEW BOARD

## IN THE MATTER OF THE 2016 FUEL ADJUSTMENT MECHANISM AUDIT (P-887)

DIRECT EVIDENCE OF JONATHAN WALLACH ON BEHALF OF THE CONSUMER ADVOCATE

Resource Insight, Inc.

**NOVEMBER 4, 2016** 

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

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

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

A: I have worked as a consultant to the electric-power industry since 1981. From
1981 to 1986, I was a research associate at Energy Systems Research Group. In
1987 and 1988, I was an independent consultant. From 1989 to 1990, I was a
senior analyst at Komanoff Energy Associates. I have been in my current
position at Resource Insight since September of 1990.

Over the past thirty years, I have advised clients on a wide range of economic, planning, and policy issues including: electric-utility restructuring; wholesale-power market design and operations; transmission pricing and policy; market valuation of generating assets and purchase contracts; powerprocurement strategies; risk assessment and management; integrated resource planning; cost allocation and rate design; and energy-efficiency program design and planning.

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My resume is attached as Exhibit JFW-1.

## 18 Q: Have you testified previously in utility regulatory proceedings?

A: Yes. I have sponsored expert testimony in 75 federal, provincial, or state
proceedings in the U.S. and Canada, including in Nova Scotia in NSUARB P887(2), P-887(6), P-887(7), and P-887(16). Exhibit JFW-1 provides a detailed
listing of my previous testimony.

Q: Please summarize your experience with regard to the Fuel Adjustment
 Mechanism (FAM).

A: I have assisted the Nova Scotia Consumer Advocate in its oversight of the FAM
 process since full implementation of the FAM on January 1, 2009. During that

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1		time, I have participated in FAM technical conferences and meetings of the
2		FAM Small Working Group on the Consumer Advocate's behalf, reviewed and
3		evaluated all FAM reports and FAM-related filings, reviewed material filed in
4		the FAM data room located in the offices of Nova Scotia Power Inc. (NS Power
5		or "the Company"), and assisted the Consumer Advocate in its interventions in
6		various General Rate Application, Base Cost of Fuel, and FAM proceedings.
7		Finally, I provided direct evidence in NSUARB P-887(2) regarding the FAM
8		incentive mechanism, in NSUARB P-887(6) regarding the allocation of
9		demand-related purchased power costs to the residential class, in NSUARB P-
10		887(7) regarding the process for deriving the 2017 Actual Adjustment and
11		Balancing Adjustment, and in NSUARB P-887(16) regarding the Fuel Stability
10		Plan.
12		
12	Q:	On whose behalf are you testifying?
	<b>Q:</b> A:	
13	-	On whose behalf are you testifying?
13 14	A:	<b>On whose behalf are you testifying?</b> My testimony is sponsored by the Nova Scotia Consumer Advocate (CA).
13 14 15	A: <b>Q:</b>	On whose behalf are you testifying? My testimony is sponsored by the Nova Scotia Consumer Advocate (CA). What is the purpose of your testimony?
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13 14 15 16 17 18	A: <b>Q:</b>	On whose behalf are you testifying? My testimony is sponsored by the Nova Scotia Consumer Advocate (CA). What is the purpose of your testimony? On August 12, 2016, Liberty Consulting Group ("Liberty") filed a report on its audit of the FAM for the years 2014 and 2015 ("Audit Report"). On September 23, 2016, NS Power filed reply evidence in response to the Audit Report.
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> </ol>	A: <b>Q:</b>	On whose behalf are you testifying? My testimony is sponsored by the Nova Scotia Consumer Advocate (CA). What is the purpose of your testimony? On August 12, 2016, Liberty Consulting Group ("Liberty") filed a report on its audit of the FAM for the years 2014 and 2015 ("Audit Report"). On September 23, 2016, NS Power filed reply evidence in response to the Audit Report. The Consumer Advocate has asked me to comment on Liberty's review of
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> </ol>	A: <b>Q:</b>	On whose behalf are you testifying? My testimony is sponsored by the Nova Scotia Consumer Advocate (CA). What is the purpose of your testimony? On August 12, 2016, Liberty Consulting Group ("Liberty") filed a report on its audit of the FAM for the years 2014 and 2015 ("Audit Report"). On September 23, 2016, NS Power filed reply evidence in response to the Audit Report. The Consumer Advocate has asked me to comment on Liberty's review of the Company's decision in July of 2007 to contract with Guasare Coal

# Q: Why did Liberty assess NS Power's consideration of delivery risk associated with the 2007 GCI agreement?

A: According to the Audit Report, GCI indefinitely suspended deliveries of coal
under the 2007 GCI agreement on December 26, 2007. Liberty estimates that by
2011 NS Power's ratepayers will have paid about \$57 million more for
replacement coal at market prices than they would have paid for deliveries at
fixed prices under the suspended 2007 GCI agreement.<sup>1</sup>

# 6 Q: Please describe the process used by NS Power to secure the 2007 GCI 7 agreement.

A: According to the Audit Report, NS Power selected GCI from a number of offers
in response to a request for proposals issued in June of 2007. Liberty estimates
that the GCI offer was about \$6.1 million cheaper than the next-best offer from
Coal Marketing Company (CMC) for deliveries of Colombian coal.<sup>2</sup> Liberty
also notes that the GCI coal was higher quality than CMC coal, but does not
believe that the economic benefits from this higher quality would have proved
substantial.<sup>3</sup>

# Q: What did Liberty conclude regarding the Company's consideration of delivery risk associated with the GCI offer?

A: Liberty concluded from its assessment that "management failed significantly in
 addressing country and credit risk associated with the offerings made in
 response to the RFP."<sup>4</sup> In particular, Liberty cited management's failure to heed
 concerns expressed by Emera's Risk Management group regarding Venezuela
 delivery risk and management's narrow focus "on price as the dominating factor,

<sup>4</sup> Id.

<sup>&</sup>lt;sup>1</sup>Liberty Consulting Group, *Audit of Nova Scotia Power, Inc.'s Fuel Adjustment Mechanism for* 2014-2015, August 12, 2016, p. XIII-9. [Hereinafter "*Audit Report*".]

<sup>&</sup>lt;sup>2</sup> Id.

<sup>&</sup>lt;sup>3</sup> *Id.*, p. XIII-35.

1		including explicit recognition that failure to take the lowest price would invite
2		consideration of a regulatory disallowance."5
3		Furthermore, Liberty concluded that:
4		When we look at the price difference against the risk difference, we believe
5		it is clearly possible and to some even preferable to conclude that choosing
6		the second (CMC Colombian) option would have been reasonable. We
7		would reject entirely the notion that choosing it would have risked
8		regulatory disallowance. <sup>6</sup>
9		Finally, in light of the strong recommendation by Emera's Risk
10		Management group in 2005 that the Company obtain some form of credit
11		assurance before contracting for Venezuelan coal, Liberty found the Company's
12		failure to request collateral prior to entering into the 2007 GCI agreement to be
13		imprudent. <sup>7</sup>
13 14	Q:	imprudent. <sup>7</sup> Would it be appropriate for the Board to impose a disallowance in light of
	Q:	*
14	Q:	Would it be appropriate for the Board to impose a disallowance in light of
14 15	<b>Q:</b> A:	Would it be appropriate for the Board to impose a disallowance in light of Liberty's finding of imprudence with regard to the Company's failure to
14 15 16	-	Would it be appropriate for the Board to impose a disallowance in light of Liberty's finding of imprudence with regard to the Company's failure to request some form of performance assurance?
14 15 16 17	-	Would it be appropriate for the Board to impose a disallowance in light of Liberty's finding of imprudence with regard to the Company's failure to request some form of performance assurance? Yes. As Liberty notes in the Audit Report:
14 15 16 17 18	-	Would it be appropriate for the Board to impose a disallowance in light of Liberty's finding of imprudence with regard to the Company's failure to request some form of performance assurance? Yes. As Liberty notes in the Audit Report: The ability to secure such instruments remained unknown, because FERM
14 15 16 17 18 19	-	Would it be appropriate for the Board to impose a disallowance in light of Liberty's finding of imprudence with regard to the Company's failure to request some form of performance assurance? Yes. As Liberty notes in the Audit Report: The ability to secure such instruments remained unknown, because FERM did not seek them. FERM also did not, as described below, even secure up-
14 15 16 17 18 19 20	-	Would it be appropriate for the Board to impose a disallowance in light of Liberty's finding of imprudence with regard to the Company's failure to request some form of performance assurance? Yes. As Liberty notes in the Audit Report: The ability to secure such instruments remained unknown, because FERM did not seek them. FERM also did not, as described below, even secure up- to-date financial information regarding the Venezuelan government-related
14 15 16 17 18 19 20 21	-	Would it be appropriate for the Board to impose a disallowance in light of Liberty's finding of imprudence with regard to the Company's failure to request some form of performance assurance? Yes. As Liberty notes in the Audit Report: The ability to secure such instruments remained unknown, because FERM did not seek them. FERM also did not, as described below, even secure up- to-date financial information regarding the Venezuelan government-related entities involved. Had management secured such instruments, they would

<sup>5</sup> *Id.*, p. XIII-36.

<sup>6</sup> *Id.*, p. XIII-37.

<sup>7</sup> Liberty response to Industrial Group IR-37.

<sup>8</sup> Audit Report, p. XIII-12.

1	collateral amount. It would therefore be reasonable for NS Power to bear the
2	amount of replacement coal costs that would have been offset by GCI collateral
3	but for the Company's failure to secure such collateral.
4	Thus, the disallowance amount could be determined based on an estimate
5	of what would have been a reasonable collateral amount, given industry practice
6	and expectations regarding market-price volatility (over the term of the GCI
7	offer) at the time that NS Power was evaluating the GCI offer. <sup>9</sup> For example,
8	according to the Audit Report:
9 10 11 12	Venezuelan coal's price five percent price disadvantage [ <i>sic</i> ] [relative to the CMC offer] could disappear quickly; while volatility was not considered a high risk at the time, much greater than five percent swings in coal prices were clearly a possibility. <sup>10</sup>
13	Alternatively, the disallowance amount could be determined based on an
14	assumption that NS Power was unable to secure collateral at a reasonable, or
15	any, price. As Liberty recognizes, GCI might have refused to provide collateral
16	or markedly increased its offer price to compensate for providing such
17	collateral. In either case, NS Power might then have determined (as Liberty
18	does) that the second-cheapest CMC offer was the preferred option because the
19	price difference between the offers did not justify the additional risk associated
20	with the GCI offer. <sup>11</sup> Under this scenario, the disallowance amount would be

<sup>&</sup>lt;sup>9</sup> It would not be appropriate in this case to reduce the disallowance amount by any expected increase in GCI offer price in response to the request for collateral. Ratepayers would not have incurred this price increase, because GCI defaulted on the 2007 GCI agreement before the start of deliveries in 2008.

<sup>&</sup>lt;sup>10</sup> Audit Report, p. XIII-10.

<sup>&</sup>lt;sup>11</sup> Thus, the Company's failure to request performance assurance from GCI may have skewed the evaluation of the GCI offer in relation to the CMC offer.

- 1 based on the estimated cost to replace suspended coal deliveries from GCI less
- 2 the cost of such deliveries under the CMC offer.
- 3 Q: Does this conclude your direct evidence?
- 4 A: Yes.

Qualifications of

# JONATHAN F. WALLACH

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

### SUMMARY OF PROFESSIONAL EXPERIENCE

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

### EDUCATION

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

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

#### PUBLICATIONS

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

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

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

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

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

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

"Consider Plant Heat Rate Fluctuations," Independent Energy, July/August 1991.

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

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

### REPORTS

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

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

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

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

"First Year of SOS Procurement." 2004. Prepared for the Maryland Office of People's Counsel.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"Integrating Demand Management into Utility Resource Planning: An Overview." 1993. Vol. 1 of "From Here to Efficiency: Securing Demand-Management Resources" (with Paul Chernick and John Plunkett). Harrisburg, Pa.:Pennsylvania Energy Office

"Making Efficient Markets." 1993. Vol. 2 of "From Here to Efficiency: Securing Demand-Management Resources" (with Paul Chernick and John Plunkett). Harrisburg, Pa.: Pennsylvania Energy Office.

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

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

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

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

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

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

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

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

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

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

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

"The Economics of Completing and Operating the Vogtle Generating Facility." 1985. ESRG Study No. 85-51A.

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

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

"The Economics of Seabrook 1 from the Perspective of the Three Maine Co-owners." 1984. ESRG Study No. 84-38.

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

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

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

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

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

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

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"Long Island Without the Shoreham Power Plant: Electricity Cost and System Planning Consequences; Technical Report B—Shoreham Operations and Costs." 1983. ESRG Study No. 83-14B.

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

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

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

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

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

#### PRESENTATIONS

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

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

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

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

#### EXPERT TESTIMONY

- 1989 Mass. DPU on behalf of the Massachusetts Executive Office of Energy Resources. Docket No. 89-100. Joint testimony with Paul Chernick relating to statistical analysis of U.S. nuclear-plant capacity factors, operation and maintenance costs, and capital additions; and to projections of capacity factor, O&M, and capital additions for the Pilgrim nuclear plant.
- 1994 **NY PSC** on behalf of the Pace Energy Project, Natural Resources Defense Council, and Citizen's Advisory Panel. Case No. 93-E-1123. Joint testimony with John Plunkett critiques proposed modifications to Long Island Lighting Company's DSM programs from the perspective of least-cost-planning principles.
- 1994 Vt. PSB on behalf of the Vermont Department of Public Service. Docket No. 5270-CV-1 and 5270-CV-3. Testimony and rebuttal testimony discusses rate and bill effects from DSM spending and sponsors load shapes for measure- and program-screening analyses.
- 1996 New Orleans City Council on behalf of the Alliance for Affordable Energy. Docket Nos. UD-92-2A, UD-92-2B, and UD-95-1. Rates, charges, and integrated resource planning for Louisiana Power & Lights and New Orleans Public Service, Inc.
- 1996 New Orleans City Council Docket Nos. UD-92-2A, UD-92-2B, and UD-95-1. Rates, charges, and integrated resource planning for Louisiana Power & Lights and New Orleans Public Service, Inc.; Alliance for Affordable Energy. April, 1996.

Prudence of utilities' IRP decisions; costs of utilities' failure to follow City Council directives; possible cost disallowances and penalties; survey of penalties for similar failures in other jurisdictions.

1998 Massachusetts Department of Telecommunications and Energy Docket No. 97-111, Commonwealth Energy proposed restructuring; Cape Cod Light Compact. Joint testimony with Paul Chernick, January, 1998.

Critique of proposed restructuring plan filed to satisfy requirements of the electric-utility restructuring act of 1997. Failure of the plan to foster competition and promote the public interest.

**Massachusetts Department of Telecommunications and Energy** Docket No. 97-120, Western Massachusetts Electric Company proposed restructuring; Massachusetts Attorney General. Joint testimony with Paul Chernick, October, 1998. Joint surrebuttal with Paul Chernick, January, 1999.

Market value of the three Millstone nuclear units under varying assumptions of plant performance and market prices. Independent forecast of wholesale market prices. Value of Pilgrim and TMI-1 asset sales.

*Maryland PSC* Case No. 8795, Delmarva Power & Light comprehensive restructuring agreement, Maryland Office of People's Counsel. July 1999.

Support of proposed comprehensive restructuring settlement agreement

**Maryland PSC** Case Nos. 8794 and 8808, Baltimore Gas & Electric Company comprehensive restructuring agreement, Maryland Office of People's Counsel. Initial Testimony July 1999; Reply Testimony August 1999; Surrebuttal Testimony August 1999.

Support of proposed comprehensive restructuring settlement agreement

**Maryland PSC** Case No. 8797, comprehensive restructuring agreement for Potomac Edison Company, Maryland Office of People's Counsel. October 1999.

Support of proposed comprehensive restructuring settlement agreement

**Connecticut DPUC** Docket No. 99-03-35, United Illuminating standard offer, Connecticut Office of Consumer Counsel. November 1999.

Reasonableness of proposed revisions to standard-offer-supply energy costs. Implications of revisions for other elements of proposed settlement.

2000 **U.S. FERC** Docket No. RT01-02-000, Order No. 2000 compliance filing, Joint Consumer Advocates intervenors. Affidavit, November 2000.

Evaluation of innovative rate proposal by PJM transmission owners.

2001 **Maryland PSC** Case No. 8852, Charges for electricity-supplier services for Potomac Electric Power Company, Maryland Office of People's Counsel. March 2001.

Reasonableness of proposed fees for electricity-supplier services.

**Maryland PSC** Case No. 8890, Merger of Potomac Electric Power Company and Delmarva Power and Light Company, Maryland Office of People's Counsel. September 2001; surrebuttal, October 2001. In support of settlement: Supplemental, December 2001; rejoinder, January 2002.

Costs and benefits to ratepayers. Assessment of public interest.

**Maryland PSC** Case No. 8796, Potomac Electric Power Company stranded costs and rates, Maryland Office of People's Counsel. December 2001; surrebuttal, February 2002.

Allocation of benefits from sale of generation assets and power-purchase contracts.

2002 **Maryland PSC** Case No. 8908, Maryland electric utilities' standard offer and supply procurement, Maryland Office of People's Counsel. Direct, November 2002; Rebuttal December 2002.

Benefits of proposed settlement to ratepayers. Standard-offer service. Procurement of supply.

2003 **Maryland PSC** Case No. 8980, adequacy of capacity in restructured electricity markets; Maryland Office of People's Counsel. Direct, December 2003; Reply December 2003.

> Purpose of capacity-adequacy requirements. PJM capacity rules and practices. Implications of various restructuring proposals for system reliability.

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