

**JOSEPH CAVICCHI**  
**Vice President**

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Mr. Cavicchi is an expert on the economics of wholesale and retail electricity markets. With more than 27 years of consulting experience, he advises a wide range of clients on issues associated with wholesale power market design and market power mitigation frameworks, wholesale and retail contracting practices, and regulatory and contract disputes arising in these marketplaces. In these engagements, Mr. Cavicchi has conducted economic analyses evaluating the impact of regulatory policies on electricity markets, applied rigorous analytical modeling tools to power system operations, evaluated contracting disputes and assessed financial damages, analyzed the effectiveness of market power mitigation frameworks in conjunction with antitrust analyses, and led economic investigations of market participant bidding behavior associated with allegations of market manipulation. He has extensive experience as an expert witness before the Federal Energy Regulatory Commission (FERC) and other federal and state regulatory authorities and has provided testimony in court and arbitration proceedings. Mr. Cavicchi presents and publishes frequently on issues relevant to electricity market design and evolution. He is a registered professional mechanical engineer in the Commonwealth of Massachusetts.

**EDUCATION**

1997	S.M., technology policy, Massachusetts Institute of Technology
1992	S.M., environmental engineering, Tufts University
1987	B.S., mechanical engineering, University of Connecticut

**PROFESSIONAL EXPERIENCE**

2019–Present	Analysis Group <i>Vice President</i>
1997–2019	Compass Lexecon <i>Executive Vice President/Senior Vice President (2007–2019)</i> <i>Vice President (2001–2006)</i> <i>Consultant/Senior Consultant (1997–2001)</i>
1989–1997	Massachusetts Institute of Technology <i>Research Assistant/Engineer (1995–1997)</i> <i>Project Manager/Staff Mechanical Engineer (1989–1995)</i>
1987–1988	Carrier Building Systems and Services <i>Project Engineer</i>

## SELECTED CONSULTING EXPERIENCE

### **Electric Generation Companies, Trade Associations, and Independent System Operators**

Conducts power system economic analyses to investigate the interaction of regulatory policies and rules with wholesale power markets, the results of which form the basis for a wide variety of reports, presentations, and papers. Conducts wholesale market power screening analyses and evaluates the impacts of mergers and acquisitions on wholesale and retail markets. Analyzes power market designs and runs workshops and seminars on power market design features.

Develops Federal Energy Regulatory Commission cost-of-service rate schedules for electric power generation resource asset owners. Oversees cost-of-service data compilation, schedule development, and calculation of cost of capital. Formulates overall cost of service schedules that combine rate-base, return on rate-base, and other ongoing fixed and variable costs to maintain generation resource operations.

### **Electricity Generation and Transmission Facility Developers**

Oversees the development and implementation of security-constrained unit commitment and dispatch modeling for proposed electricity generation units and transmission facilities located in the Northeastern, Mid-Atlantic, and Midwestern US. The analyses typically focus on going-forward generation and transmission resource economic evaluations, and on assessing the impacts of different resource mixtures on local and regional air pollutant emissions and projected wholesale and retail electricity prices. In addition, these analyses often include an estimate of the impact of particular resource investments on social welfare.

## SELECTED EXPERT TESTIMONY

- ***Public Utilities Commission of the State of California v. Sellers of Long-Term Contracts to the California Department of Water Resources***  
*United States of America, Before the Federal Energy Regulatory Commission, Docket Nos. EL02-60-018 and EL02-62-017*  
Direct Testimony of A. Joseph Cavicchi, June 17–18, 2025. Deposition of A. Joseph Cavicchi, May 16, 2025. Cross-Answering Testimony of A. Joseph Cavicchi on behalf of Shell Energy North America, April 25, 2025. Answering Testimony of A. Joseph Cavicchi on behalf of Shell Energy North America, February 4, 2025.
- ***Sierra Club, et al. v. PJM Interconnection, LLC***  
*United States of America, Before the Federal Energy Regulatory Commission, Docket No. EL24-148-000*  
Affidavit of A. Joseph Cavicchi, October 21, 2024.
- ***PJM Interconnection, L.L.C.***  
*United States of America, Before the Federal Energy Regulatory Commission, Docket No. ER24-2172-001*  
Direct Testimony of A. Joseph Cavicchi and Todd Schatzki, September 24, 2024.
- ***PPL Electric Utilities Corporation***  
*Before the Pennsylvania Public Utility Commission, Docket No. P-2024-3047290, PPL Electric Utilities Corporation*  
Statement No. 2. Direct Testimony of A. Joseph Cavicchi, March 12, 2024. Written, Public.  
Statement No. 2-R. Rebuttal Testimony of A. Joseph Cavicchi, July 1, 2024. Written, Public.

- **Peaker Power, LLC, v. Shell Energy North America (US), L.P.**  
*Before the Texas Harris County District Court, 165th Judicial District, Cause No. 2021-16610*  
Expert Report of A. Joseph Cavicchi, August 22, 2022. Declaration of A. Joseph Cavicchi, September 9, 2022. Deposition Testimony of A. Joseph Cavicchi, October 5, 2022.
- **Narragansett Electric Company, d/b/a Rhode Island Energy**  
*Before the Rhode Island Public Utility Commission, Docket No. 4978, Last Resort Service Rate Filing*  
Pre-Filed Direct Testimony of A. Joseph Cavicchi, July 21, 2022. Hearing Testimony of A. Joseph Cavicchi, September 19, 2022.
- **Olin Chlorine 7 f/k/a Dow Mitsui Chlor-Alkali LLC**  
*Before the American Arbitration Association International Centre for Dispute Resolution, Olin Chlorine 7 f/k/a Dow Mitsui Chlor-Alkali LLC, and Blue Cube Operations, LLC, Claimants, and Dow Hydrocarbons and Resources LLC, Respondent, Case No. 01-21-0004-3837*  
Expert Report of Allen Joseph Cavicchi, February 1, 2022. Confidential.
- **PJM Interconnection, L.L.C.**  
*United States of America, Before the Federal Energy Regulatory Commission, Docket No. ER22-26-000*  
Direct Testimony of A. Joseph Cavicchi and Megan H. Accordino, Ph.D., October 1, 2021.
- **Twin Eagle Resource Management**  
*City of Raton vs. Twin Eagle, State of New Mexico, County of Colfax, Eighth Judicial District, Resource Management, No: D-809-CV-2019-00020*  
Deposition Testimony, December 3, 2020.
- **PPL Electric Utilities Corporation**  
*Before the Pennsylvania Public Utility Commission, Docket No. P-2020-3019356, PPL Electric Utilities Corporation*  
Statement No. 2. Direct Testimony of A. Joseph Cavicchi, March 25, 2020. Written, Public.  
Statement No. 2-R. Rebuttal Testimony of A. Joseph Cavicchi, July 23, 2020. Written, Public.
- **PJM Power Providers Group**  
*United States of America, Before the Federal Energy Regulatory Commission, Docket Nos. ER19-1486-000 and EL19-58-000*  
Affidavits of A. Joseph Cavicchi on behalf of the PJM Power Providers (“P3”) Group, May 15, 2019 and June 20, 2019. Written, Public.
- **NextEra Energy Resources, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, Docket No. ER18-1639-000*  
Answering Testimony of A. Joseph Cavicchi on behalf of NextEraEnergy Resources, LLC, August 23, 2018. Written, Public and Confidential. Deposition Testimony of A. Joseph Cavicchi, September 10, 2018. Oral, Public. Testimony of A. Joseph Cavicchi, October 8, 2018, Oral, Public and Confidential.
- **CXA La Paloma, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission. RE : CXA La Paloma, LLC v. California Independent System Operator Corporation, Docket No. EL18-177*  
Affidavit of Jeffrey Tranen and Joseph Cavicchi, June 20, 2018. Written, Public.

- **Talen Montana, LLC and Talen Energy Marketing, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission. RE : Triennial Market-Based Rate Update for the Northwest Region, Talen Montana, L.L.C. et al., Dockets ER 15-2013 et al.*  
Affidavit of A. Joseph Cavicchi, April 27, 2018. Written, Public.
- **Talen Montana, LLC and Talen Energy Marketing, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission. RE : Triennial Market-Based Rate Update for the Northwest Region, Talen Montana, L.L.C. et al., Dockets ER 10-2016 et al.*  
Affidavit of A. Joseph Cavicchi, December 20, 2016. Written, Public.
- **PPL Electric Utilities Corporation and LG&E Energy Marketing Inc.**  
*United States of America, Before the Federal Energy Regulatory Commission. RE : Triennial Market-Based Rate Update for the Northeast Region, PPL Electric Utilities Corporation et al., Dockets ER 10-2010 et al.*  
Affidavit of A. Joseph Cavicchi, December 20, 2016. Written, Public.
- **NextEra Energy Resources, LLC**  
*Before the Commonwealth of Massachusetts, Department of Public Utilities, Docket D.P.U. 16-05, Petition for Approval of Gas Infrastructure Contracts with Algonquin Gas Transmission Co. for the Access Northeast Project*  
Direct Testimony of Joseph P. Kalt and A. Joseph Cavicchi, June 20, 2016 (corrected June 28, 2016), Written, Public and Confidential. Surrebuttal Testimony of Joseph P. Kalt and A. Joseph Cavicchi, July 18, 2016. Written, Public and Confidential.
- **NextEra Energy Resources, LLC**  
*Before the Commonwealth of Massachusetts, Department of Public Utilities, Docket D.P.U. 15-181, Petition for Approval of Gas Infrastructure Contracts with Algonquin Gas Transmission Co. for the Access Northeast Project*  
Direct Testimony of Joseph P. Kalt and A. Joseph Cavicchi, June 13, 2016 (corrected June 28, 2016), Written, Public and Confidential. Surrebuttal Testimony of Joseph P. Kalt and A. Joseph Cavicchi, July 12, 2016. Written, Public and Confidential.
- **PPL Electric Utilities Corporation**  
*Before the Pennsylvania Public Utility Commission, Docket No. P-2016-2526627, PPL Electric Utilities Corporation*  
Statement No. 2. Direct Testimony of A. Joseph Cavicchi, January 29, 2016. Written, Public.  
Statement No. 2-Supp. Supplemental Testimony of A. Joseph Cavicchi, March 9, 2016, Written, Public. Statement No. 2-R Rebuttal Testimony of A. Joseph Cavicchi, May 23, 2016. Written, Public.
- **Calpine Corporation et al.**  
*United States of America, Before the Federal Energy Regulatory Commission. Calpine Corporation et al., Complainants v. PJM Interconnection, L.L.C., Respondent. RE: Complaint Requesting Fast Track Processing, PJM Interconnection, L.L.C., Docket No. EL 16-49-000*  
Affidavit of A. Joseph Cavicchi, March 21, 2016. Written, Public.
- **PJM Power Providers Group**

*Before the Public Utilities Commission of Ohio, In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider, Case No. 14-1693-EL-RHR et al.*

Supplemental Testimony of A. Joseph Cavicchi on behalf of the PJM Power Providers Group and The Electric Power Supply Association, December 28, 2015. Written, Public and Confidential.

Deposition of A. Joseph Cavicchi on behalf of the PJM Power Providers Group and The Electric Power Supply Association, January 5, 2016. Deposition Testimony of A. Joseph Cavicchi, January 5, 2016. Testimony of A. Joseph Cavicchi, January 7, 2016. Oral, Public.

- **Exelon Generation Company, LLC**

*United States of America, Before the Federal Energy Regulatory Commission, San Diego Gas & Electric Company v. Sellers of Energy and Ancillary Services, Into Markets Operated by the California, Independent System Operator Corporation, And the California Power Exchange, Docket EL 00-95-280 et al.*

Affidavit of A. Joseph Cavicchi in Support of the Exelon Generation Company, LLC's Fuel Cost Allowing Filing, December 4, 2015. Written, Public.

- **PJM Power Providers Group**

*Before the Public Utilities Commission of Ohio, In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider, Case No. 14-1693-EL-RHR et al.*

Direct Testimony of A. Joseph Cavicchi on behalf of the PJM Power Providers Group and The Electric Power Supply Association, September 11, 2015, Written, Public and Confidential. Testimony of A. Joseph Cavicchi on behalf of the PJM Power Providers Group and The Electric Power Supply Association, October 20, 2015. Oral, Public.

- **Iberdrola Renewables, LLC**

*United States of America, Before the Federal Energy Regulatory Commission, Docket Nos. EL02-60-007 and EL02-62-006, consolidated*

Prepared Answering Testimony of A. Joseph Cavicchi on behalf of Iberdrola Renewables, LLC, July 21, 2015, Written, Public & Confidential. Deposition of A. Joseph Cavicchi on behalf of the Iberdrola Renewables, LLC, September, 24, 2015. Oral, Confidential. Testimony of A. Joseph Cavicchi, December 3, 2015. Oral, Public.

- **PPL Electric Utilities Corporation**

*Before the Pennsylvania Public Utility Commission, Docket No. P-2014-2417907, PPL Electric Utilities Corporation*

Statement No. 2. Direct Testimony of A. Joseph Cavicchi, April 25, 2014, Written, Public. Statement No. 2-R Rebuttal Testimony of A. Joseph Cavicchi, July 28, 2014. Written, Public.

- **San Diego Gas and Electric Company**

*Naturener USA, LLC, et al. v. San Diego Gas & Electric Company, in the Montana Ninth Judicial District Court, Toole County, Declaration, January 22, 2014. Non-Public.*

- **PPL EnergyPlus**

*United States of America, Before the Federal Energy Regulatory Commission. RE : Triennial Market-Based Rate Update for the Northeast Region, PPL Electric Utilities Corporation et al., Dockets ER 10-2010 et al.*

Affidavit of A. Joseph Cavicchi, December 31, 2013. Written, Public.

- **PPL EnergyPlus**

*United States of America, Before the Federal Energy Regulatory Commission. RE : Triennial Market-Based Rate Update for the Northwest Region, PPL EnergyPlus LLC et al., Dockets ER 10-2011 et al. Affidavit of A. Joseph Cavicchi, December 31, 2013. Written, Public.*

▪ **Transalta Energy Marketing**

*United States of America, Before the Federal Energy Regulatory Commission, Puget Sound Energy, Inc., Complainant v. All Jurisdictional Sellers of Energy and/or Capacity at Wholesale into Electric Energy and/or Capacity Markets in the Pacific Northwest, Including Parties to the Western System Power Pool Agreement Participants, Docket. No. EL01-085*

Prepared Answering Testimony of A. Joseph Cavicchi on behalf of Transalta Energy Marketing (U.S.) Inc. and Transalta Energy Marketing (California) Inc., December 17, 2012. Deposition of A. Joseph Cavicchi on behalf of Transalta Energy Marketing (California) Inc., February 8, 2013. Testimony of A. Joseph Cavicchi, October 21 and 22, 2013. Oral, Public.

▪ **Avista Corporation et al.**

*United States of America, Before the Federal Energy Regulatory Commission, In the Matter of Puget Sound Energy, Inc. v. All Jurisdictional Sellers of Energy and/or Capacity at Wholesale into Electric Energy and/or Capacity Markets in the Pacific Northwest, including Parties to the Western Systems Power Pool Agreement. Docket EL01-10-085*

Testimony of A. Joseph Cavicchi, September 26, 2013. Oral, Public. Answering Testimony of A. Joseph Cavicchi on behalf of Avista Corporation et al. ("Joint Defense Group"), June 24, 2013. Deposition of A. Joseph Cavicchi on behalf of Avista Corporation et al., July 9, 2013.

▪ **US Department of Justice**

*Before the United States Court of Federal Claims, Pacific Gas and Electric Company and Southern California Edison Company, Plaintiffs et al. v. The United States, Defendant, No. 07-157C, No. 07-167C (Consolidated), No. 07-184C*

Deposition of A. Joseph Cavicchi, March 27, 2013. Confidential, Subject to Protective Order.

▪ **US Department of Justice**

*Before the United States Court of Federal Claims, Pacific Gas and Electric Company and Southern California Edison Company, Plaintiffs et al. v. The United States, Defendant, No. 07-157C, No. 07-167C (Consolidated), No. 07-184C*

Expert Report of A. Joseph Cavicchi, March 1, 2013. Confidential, Subject to Protective Order.

▪ **PPL Montana and PPL EnergyPlus**

*United States of America, Before the Federal Energy Regulatory Commission, Puget Sound Energy, Inc., Complainant v. All Jurisdictional Sellers of Energy and/or Capacity at Wholesale into Electric Energy and/or Capacity Markets in the Pacific Northwest, Including Parties to the Western System Power Pool Agreement Participants, Docket. No. EL01-085*

Prepared Answering Testimony of A. Joseph Cavicchi on behalf of PPL Montana and PPL EnergyPlus, December 17, 2012. Written, Public. Deposition of A. Joseph Cavicchi on behalf of PPL Montana and PPL EnergyPlus, February 8, 2013.

▪ **Constellation New Energy**

*United States of America, Before the Federal Energy Regulatory Commission, Puget Sound Energy, Inc., Complainant v. All Jurisdictional Sellers of Energy and/or Capacity at Wholesale into Electric Energy and/or Capacity Markets in the Pacific Northwest, Including Parties to the Western System Power Pool Agreement Participants, Docket. No. EL01-085*

Prepared Answering Testimony of A. Joseph Cavicchi on behalf of Constellation Energy Commodities Group, December 17, 2012. Written, Public. Deposition of A. Joseph Cavicchi on behalf of Constellation Energy Commodities Group, February 8, 2013.

- **Constellation NewEnergy**

*United States of America, Before the Federal Energy Regulatory Commission, San Diego Gas & Electric Company, Complainant, v. Sellers of Energy and Ancillary Services into Markets Operated by the CA ISO and CA Power Exchange, et al., Respondents, Docket No. EL00-95-248*  
Direct Testimony and Exhibits of Constellation NewEnergy, Inc. Testimony of A. Joseph Cavicchi on behalf of Constellation NewEnergy, July 11, 2012. Oral, Public.

- **PPL Electric Utility Corporation**

*Before the Pennsylvania Public Utility Commission, Docket No. P-2012-2302074, PPL Electric Utility Corporation*  
Statement No. 2. Direct Testimony of A. Joseph Cavicchi, May 16, 2012. Statement No. 2-R. Direct Testimony of A. Joseph Cavicchi, August 17, 2012. Statement No. 3. Testimony of A. Joseph Cavicchi, September 10, 2012. Oral, Public.

- **PPL Corporation**

*United States of America, Before the Federal Energy Regulatory Commission, RE: Notice of Change in Status Regarding Market-Based Rate Authority, Docket No. ER10-2016-\_\_\_ et al.*  
Affidavit of A. Joseph Cavicchi on behalf of PPL Corporation, January 30, 2012. Written, Public.

- **Entegra Power Services, LLC**

*United States of America, Before the Federal Energy Regulatory Commission, Union Power Partners LP, Docket No. ER05-1191-016, Entegra Power Services LLC, Docket No. ER09-838-002*  
Updated Market Power Analysis for Market-Based Rates. Affidavit of A. Joseph Cavicchi, December 29, 2011.

- **Constellation NewEnergy, Inc.**

*United States of America, Before the Federal Energy Regulatory Commission, San Diego Gas & Electric Company, Complainant, v. Sellers of Energy and Ancillary Services into Markets Operated by the CA ISO and CA Power Exchange, et al., Respondents, Docket No. EL00-95-248*  
Direct Testimony and Exhibits of Constellation NewEnergy, Inc., Direct and Answering Testimony and Exhibits of A. Joseph Cavicchi on behalf of Constellation NewEnergy, October 25, 2011. Written, Public.

- **CP Energy**

*United States of America, Before the Federal Energy Regulatory Commission, RE: Triennial Market-Based Rate Update for the Northeast Region, Docket No. ER10-1342 et al.*  
Affidavit of A. Joseph Cavicchi, June 30, 2011. Written, Public.

- **Edison Mission**

*United States of America, Before the Federal Energy Regulatory Commission, RE: Triennial Market-Based Rate Update for the Northeast Region, Edison Mission Marketing and Trading, et al., Docket No. ER11-\_\_\_-000, et al.*  
Affidavit of A. Joseph Cavicchi, June 29, 2011. Written, Public.

- **Entegra Power Services, LLC**

*United States of America, Before the Federal Energy Regulatory Commission, Gila River Energy Supply LLC, Docket No. ER11-\_\_\_\_-000, Request for Acceptance of Initial Market-Based Rate Tariff, Waivers and Blanket Authority Under Section 205 of the Federal Power Act*  
Affidavit of A. Joseph Cavicchi, April 11, 2011. Written, Public.

▪ **PPL Corporation**

*United States of America, Before the Federal Energy Regulatory Commission, Triennial Market-Based Rate Update for the Northwest Region, PPL Northwest Companies, ER10-2011-000 et al.*  
Affidavit of A. Joseph Cavicchi on behalf of the PPL Northwest Companies, January 31, 2011.  
Written, Public.

▪ **Entegra Power Services LLC**

*United States of America, Before the Federal Energy Regulatory Commission, Gila River Power, LP, Docket No. ER05-1178-015 and Entegra Power Services LLC, Docket ER09-838-001, Second Supplement to Updated Market Power Analysis for Continued Market-Based Rate Authority in Compliance with Order No. 697*  
Second Supplement Affidavit of A. Joseph Cavicchi, January 12, 2011. Written, Public.

▪ **PPL Corporation**

*United States of America, Before the Federal Energy Regulatory Commission, RE: Notice of Change of Status Regarding Market-Based Rate Authority, Docket No. ER10-1511-001 et al.*  
Affidavit of A. Joseph Cavicchi on behalf of PPL Corporation, December 1, 2010. Written, Public.

▪ **Entegra Power Services LLC**

*United States of America, Before the Federal Energy Regulatory Commission, Gila River Power, LP, Docket No. ER05-1178-015 and Entegra Power Services LLC, Docket ER09-838-001*  
Supplement to Updated Market Power Analysis for Continued Market-Based Rate Authority in Compliance with Order No. 697. Affidavit of A. Joseph Cavicchi, November 19, 2010. Written, Public.

▪ **Chesapeake Energy Corp., et al.**

*Before the Public Utilities Commission of the State of Colorado, In the Matter of Commission Consideration of Public Service Company of Colorado Plan in Compliance with House Bill 10-1365 "Clean Air Jobs Act," Docket No. 10M-245E*  
Testimony of A. Joseph Cavicchi on behalf of Noble Energy, Inc., Chesapeake Energy Corporation and Encana Oil & Gas (USA), November 1, 2010. Oral, Public. November 9, 2010. Written, Public.  
November 18, 2010. Oral, Public.

▪ **Chesapeake Energy Corp., et al.**

*Before the Public Utilities Commission of the State of Colorado, In the Matter of Commission Consideration of Public Service Company of Colorado Plan in Compliance with House Bill 10-1365 "Clean Air Jobs Act," Docket No. 10M-245E*  
Cross Answer Testimony and Exhibits of A. Joseph Cavicchi on behalf of Noble Energy, Inc., Chesapeake Energy Corporation and Encana Oil & Gas (USA), October 8, 2010. Written Report Public, Exhibits Confidential, Filed Under Seal.

▪ **Chesapeake Energy Corp., et al.**

*Before the Public Utilities Commission of the State of Colorado, In the Matter of Commission Consideration of Public Service Company of Colorado Plan in Compliance with House Bill 10-1365 "Clean Air Jobs Act," Docket No. 10M-245E*



Answer Testimony and Exhibits of A. Joseph Cavicchi on behalf of Noble Energy, Inc., Chesapeake Energy Corporation and Encana Oil & Gas (USA), September 17, 2010. Written, Confidential.

- **PPL Electric Utilities Corporation**

*Before the Pennsylvania Public Utility Commission, RE: Petition of PPL Electric Utilities Corporation for Approval of a Default Service Program and Procurement Plan for the Period January 1, 2011 through May 31, 2014, Docket No. P-2008-2060309*

Statement No. 2. Direct Testimony of A. Joseph Cavicchi on behalf of PPL Electric, September 14, 2010. Oral, Written and Public.

- **PPL Corporation and E.ON U.S.**

*United States of America, Before the Federal Energy Regulatory Commission, RE: PPL Corporation and E.ON U.S. LLC Application for Authorization Under Section 203 of the Federal Power Act, Request for Waivers of Filing Requirements, and Confidential Treatment of Agreement and Workpapers, Docket No. EC10-77-000*

Affidavit of Dr. Joseph P. Kalt and Mr. A. Joseph Cavicchi, June 28, 2010.

- **BG Masspower**

*Before the Commonwealth of Massachusetts Trial Court, Suffolk, SS, Civil Action 07-3243 (BLS2), Masspower, by its General Partners, BG MP Partners I, LLC, and BG MP Partners II, LLC, Plaintiffs, v. Massachusetts Municipal Wholesale Electric Company, Defendant*

Deposition of A. Joseph Cavicchi on behalf of Masspower, February 19, 2010. Testimony of A. Joseph Cavicchi on behalf of Masspower, March 18 and 19, 2010. Oral, Public.

- **Allegheny**

*United States of America, Before the Federal Energy Regulatory Commission, State of California ex rel. Lockyer v. British Columbia Power Exchange Corp., et al., Docket No. EL02-71-017 et al.*

Prepared Answering Testimony of A. Joseph Cavicchi on behalf of Allegheny Energy, September 17, 2009. Written, Public.

- **MPS Merchant Services**

*United States of America, Before the Federal Energy Regulatory Commission, State of California ex rel. Lockyer v. British Columbia Power Exchange Corp., et al., Docket No. EL02-71-017*

Prepared Answering Testimony of A. Joseph Cavicchi on behalf of MPS Merchant Services, September 17, 2009. Written, Public.

- **PPL Montana, LLC**

*United States of America, Before the Federal Energy Regulatory Commission, State of California ex rel. Lockyer v. British Columbia Power Exchange Corp., et al., Docket No. EL02-71-017*

Answering Testimony of A. Joseph Cavicchi on behalf of PPL Montana, LLC, September 17, 2009. Written, Public.

- **Constellation New Energy**

*United States of America, Before the Federal Energy Regulatory Commission, San Diego Gas and Electric Co. v. Sellers of Energy and Ancillary Services, Docket No. EL00-95 et al.*

Affidavit of A. Joseph Cavicchi on behalf of Constellation New Energy, August 4, 2009. Written, Public.

- **Energy Northwest**

*Before the American Arbitration Association, Seattle, Washington, Grays Harbor Energy LLC, Claimant, Energy Northwest, Respondent, Case No. 75-158-115-08*

Testimony of A. Joseph Cavicchi on behalf of Energy Northwest, June 18, 2009. Oral, Public. Deposition  
Testimony of A. Joseph Cavicchi on behalf of Energy Northwest, May 13, 2009. Oral, Public.  
Supplemental Expert Report of A. Joseph Cavicchi on behalf of Energy Northwest, April 30, 2009.  
Written, Confidential. Expert Report of A. Joseph Cavicchi on behalf of Energy Northwest, April 15,  
2009. Written, Confidential.

- **Entegra Power Services LLC**

*United States of America, Before the Federal Energy Regulatory Commission, Request for Acceptance of  
Initial Market-Based Rate Tariff, RE: Updated Market Power Analysis for EPS' Affiliate, Gila River,  
Docket ER09-838-000*

Affidavit of A. Joseph Cavicchi, March 13, 2009. Written, Public.

- **Union Pacific Railroad Company**

*In the Matter of the Arbitration between Wisconsin Public Service Corporation and Union Pacific  
Railroad Company*

Rebuttal Expert Report of A. Joseph Cavicchi, February 16, 2009.

- **PPL Electric Utilities Corporation**

*Before the Pennsylvania Public Utility Commission, RE: Petition of PPL Electric Utilities Corporation  
for Approval of a Default Service Program and Procurement Plan for the Period January 1, 2001  
through May 31, 2014, Docket No. P-2008-2060309*

Testimony of A. Joseph Cavicchi on behalf of PPL Electric Utilities Corporation, February 11, 2009.  
Oral, Public.

- **PPL Electric Utilities Corporation**

*Before the Pennsylvania Public Utility Commission, Docket No. P-2008-2060309*

Rebuttal Testimony of A. Joseph Cavicchi on behalf of PPL Electric Utilities Corporation, January 20,  
2009.

- **Union Power Partners, L.P.**

*United States of America, Before the Federal Regulatory Commission, Docket No. ER05-1191-014,  
Updated Market Power Analysis for Continued Market-Based Rate Authority*

Affidavit of A. Joseph Cavicchi on behalf Union Power Partners, L.P., December 30, 2008.

- **PPL Electric Utilities Corporation**

*Before the Pennsylvania Public Utility Commission, Docket No. P-2008-2060309*

Supplemental Testimony of A. Joseph Cavicchi of behalf of PPL Electric Utilities Corporation,  
November 3, 2008.

- **PPL Electric Utilities Corporation**

*Before the Pennsylvania Public Utility Commission, Docket No. P-2008-2060309*

Testimony of A. Joseph Cavicchi of behalf of PPL Electric Utilities Corporation, September 11,  
2008.

- **PPL Electric Utilities Corporation**

*United States of America, Before the Federal Regulatory Commission, Docket No. ER00-1712-008,  
ER02-2408-003, ER00-744-006, ER02-1327-005, ER00-1703-003, ER02-1749-003, ER02-1747-003,  
ER99-4503-005, ER00-2186-003, ER01-1559-004*

Affidavit of A. Joseph Cavicchi on behalf of PPL Companies, September 2, 2008.

- **PPL Electric Utilities Corporation**

*United States of America, Before the Federal Regulatory Commission, Docket No. EL08-67-000*  
Affidavit of A. Joseph Cavicchi (with Joseph P. Kalt) on behalf of PPL Companies, August 12, 2008.

- **PPL Electric Utilities Corporation**

*United States of America, Before the Federal Regulatory Commission, Docket No. EL08-67-000*  
Affidavit of A. Joseph Cavicchi (with Joseph P. Kalt) on behalf of PPL Companies, July 11, 2008.

- **Entegra Power Group L.L.C.**

*United States of America, Before the Federal Regulatory Commission, Docket Nos. ER05-1178-00 and ER05-1191-00*

Affidavit of A. Joseph Cavicchi on behalf of Entegra Power Group L.L.C, Gila River Power, L.P., Union Power Partners, L.P., Harbinger Capital Partners Master Fund I, Ltd., and Harbinger Capital Partners Special Situations Fund, LP, May 30, 2008.

- **Harbinger**

*United States of America, Before the Federal Regulatory Commission, Docket No. EC08-87-000*  
Affidavit of A. Joseph Cavicchi on behalf of the Entegra Power Group L.L.C, Gila River Power, L.P., Union Power Partners, L.P., Harbinger Capital Partners Master Fund I, Ltd., and Harbinger Capital Partners Special Situations Fund, LP, May 9, 2008.

- **IEPA**

*United States of America, Before the Federal Regulatory Commission, Docket Nos. ER08-556-000 and ER06-615-020*

Affidavit of A. Joseph Cavicchi on behalf of Independent Energy Producers Association, February 29, 2008.

- **PJM Power Providers Group**

*United States of America, Before the Federal Regulatory Commission, Docket No. EL08-34-000*  
Affidavit of Joseph P. Kalt and A. Joseph Cavicchi on behalf of the P3 Group, responding to the Complaint of the Maryland Public Service Commission against PJM Interconnection, L.L.C., regarding marketing power mitigation, February 19, 2008.

- **Tractebel Energy Marketing, Inc.**

*Tractebel Energy Marketing, Inc. v. AEP Power Marketing, Inc., American Electric Power Company, Inc. and Ohio Power Company, 03 CV 6731 (S.D.N.Y.) (HB) (JCF); and Ohio Power Company and AEP Power Marketing, Inc. v. Tractebel Energy Marketing, Inc. and Tractebel S.A., 03 CV 6770 (S.D.N.Y.) (HB) (JCF)*

Expert Report of A. Joseph Cavicchi on behalf of Tractebel Energy Marketing, Inc., January 21, 2008.

- **PPL Corporation**

*United States of America, Before the Federal Regulatory Commission, Docket Nos. ER00-1712-007, ER02-2408-003, ER00-744-006, ER02-1327-005, ER00-1703-002, ER02-1749-003, ER02-1747-003, ER99-4503-005, ER00-2186-003, ER01-1559-004*

Affidavit of A. Joseph Cavicchi on behalf of Triennial Market Power Update of PPL Companies, January 14, 2008.

- **IEPA**

*United States of America, Before the Federal Regulatory Commission, Docket Nos. ER06-615-003, 005, 012, ER07-1257-000, ER02-1656-017, ER02-1656-018, EL05-146-000 and EL08-20-000*

Affidavit of A. Joseph Cavicchi on behalf of Independent Energy Producers Association, January 9, 2008.

- **NRG**

*United States of America, Before the Federal Regulatory Commission, New York Independent System Operator – Docket No. EL07-39-000*

Affidavits of A. Joseph Cavicchi on behalf of NRG Power Marketing, Inc., Arthur Kill Power LLC, Astoria Gas Turbine Power LLC, Dunkirk Power LLC, Huntley Power LLC, and Oswego Harbor Power LLC, November 19, 2007, December 10, 2007, and December 21, 2007. Written, Public.

- **American Electric Power Services Corporation, Conectiv Energy Supplies, Inc., DTE Energy Trading, Inc., Energy America, LLC, Integrys Energy Services, Inc., and PPL Energy Plus, LLC**

*United States of America, Before the Federal Regulatory Commission, The People of the State of Illinois, ex rel. Illinois Attorney General Lisa Madigan v. Exelon Generation Co., LLC, et al., Docket No. EL07-47-000*

Affidavit of Joseph Cavicchi and Joseph P. Kalt, June 18, 2007. Written, Public.

- **Independent Energy Producers Association of California**

*United States of America, Before the Federal Regulatory Commission, Docket No. R.06-02-013, Long-Term Procurement Plans, Prepared Testimony of the Independent Energy Producers Association*

Prepared Testimony of Joseph Cavicchi and David Reishus on behalf of the IEPA, March 2, 2007. Written, Public.

- **Cross Hudson**

*Before the State Of New York Public Service Commission, Request of Hudson Transmission Partners, LLC, for Unredacted Copies of Records Filed In Case 01-T-1474*

Affidavit of Joseph Cavicchi in Support of Cross Hudson Corporation's Appeal of Records Access Officer's February 9, 2007, Determination (Trade Secret 07-1), February 21, 2007. Written, Public.

- **PPL Electric Utilities Corporation**

*Before The Pennsylvania Public Utility Commission, RE: Petition of PPL Electric Utilities Corporation for Approval of A Competitive Bridge Plan, Docket No. P-00062227*

Direct Testimony of Joseph Cavicchi, December 19 and 20, 2006. Oral, Public.

- **PPL Electric Utilities Corporation**

*Before The Pennsylvania Public Utility Commission, RE: Petition of PPL Electric Utilities Corporation for Approval of A Competitive Bridge Plan, Docket No. P-00062227*

Reply to Surrebuttal Testimony of Marjorie R. Philips, Joseph Cavicchi, December 20, 2006. Written, Public.

- **PJM Interconnect, LLC**

*United States of America, Before the Federal Regulatory Commission, Docket No. EL05-148-000, 001; Docket No. ER05-1410-000, 001, Initial Comments of the PPL Parties and the PSEG Companies in Opposition to Proposed Settlement, Exhibit D-1 (Exhibit AJC-1)*

Affidavit of A. Joseph Cavicchi, October 19, 2006. Written, Public.

- **Excelsior Energy Inc.**

*Before The Minnesota Office Of Administrative Hearings, RE: In The Matter Of The Petition Of Excelsior Energy Inc. And Its Wholly-Owned Subsidiary MEP-I, LLC For Approval Of Terms And Conditions For The Sale Of Power From Its Innovative Energy Project Using Clean Energy Technology Under Minn. Stat. §216B.1694 and a Determination That The Clean Energy Technology Is Or Is Likely To Be A Least-Cost Alternative Under Minn. Stat. §216B.1693, MPUC Docket No. E-6472-/M-05-1993; OAH Docket No. 12-2500-17260-2*

Prepared Rebuttal Testimony and Exhibits of Excelsior Energy Inc. and MEP-I LLC. Rebuttal and Exhibits of Joseph Cavicchi, October 10, 2006. Written, Confidential.

- **PPL Electric Utilities Corporation**

*Before The Pennsylvania Public Utility Commission, RE: Petition of PPL Electric Utilities Corporation for Approval of A Competitive Bridge Plan, Docket No. P-00062227*

Statement No. 2, Direct Testimony of Joseph Cavicchi, September 15, 2006. Written, Public.

- **Independent Energy Producers Association of California**

*United States of America, Before the Federal Regulatory Commission, Docket No. EL05-146-000*

Reply Comments of the Independent Energy Producers Association, September 26, 2006. Affidavit of Joseph Cavicchi, August 26, 2006. Written, Public.

- **Independent Energy Producers Association of California**

*United States of America, Before the Federal Regulatory Commission, Docket No. EL05-146-000,*

Affidavit in Support of Justness and Reasonableness of the Offer of Settlement's Reference

Resource's Cost and Performance Characteristics

Affidavit of Joseph Cavicchi, August 21, 2006. Written, Public.

- **PPL Maine, LLC**

*United States of America, Before the Federal Regulatory Commission, RE: PPL Maine, LLC, Docket No. ER00-2186-002*

Triennial Market-Based Rate Update. Affidavit of A. Joseph Cavicchi on behalf of the PPL Companies, June 19, 2006. Written, Public.

- **FirstEnergy Solutions Corp.**

*United States of America, Before the Federal Regulatory Commission, FirstEnergy Solutions Corp., Docket No. ER06-117-000*

Prepared Direct Testimony of Scott T. Jones, Ph.D., and A. Joseph Cavicchi on behalf of FirstEnergy Solutions Corporation, March 15, 2006, confirming the auction price result of the Competitive Bidding Process carried out by the Ohio Public Utilities Commission in December 2004, and establishing that Solutions is not charging a rate greater than market prices for wholesale electricity sold to its affiliated Ohio based regulated distribution companies.

- **PPL Montana, LLC**

*United States of America, Before the Federal Energy Regulatory Commission, RE: PPL Montana, LLC, Docket No. ER99-3491-003; PPL Colstrip I, LLC, Docket No. ER00-2184-001; PPL Colstrip II, LLC, Docket No. ER00-2185-001; Answer of the PPL Montana Parties to Montana Consumer Counsel's New Uncommitted Capacity Pivotal Supplier Analysis and Uncommitted Capacity Market Share Analysis*

Affidavit (filed with Joseph Kalt), February 28, 2005; Affidavit (filed with Joseph Kalt), November 14, 2005 (original October 31, 2005); First Supplemental Affidavit on behalf of the PPL Montana Parties (filed with Joseph Kalt), December 23, 2005; Affidavit (filed with Joseph Kalt), February 1, 2006.

- **PPL Corporation**  
*United States of America, Before the Federal Energy Regulatory Commission, Triennial Market-Based Rate Update, Submitted by PPL Great Works, Docket No. ER05-4503-004*  
Affidavit, January 24, 2006.
- **Independent Energy Producers Association of California**  
*Before the Public Utilities Commission of the State of California, Evidentiary Hearings, Dockets Nos. R04-04-025 and R04-04-003*  
Testimony of Joseph Cavicchi and David Reishus on behalf of Independent Energy Producers Association of California, January 23 and 24, 2006. Oral, Public.
- **PPL Corporation**  
*United States of America, Before the Federal Energy Regulatory Commission, Docket No. ER05-1416-000*  
Affidavit of A. Joseph Cavicchi, Joseph P. Kalt, Ph.D., and David A. Reishus, Ph.D., on behalf of the PPL Parties, October 19, 2005.
- **Independent Energy Producers Association of California**  
*United States of America, Before the Federal Energy Regulatory Commission, Docket No. EL05-146-000*  
Affidavit in Support of the Complaint of the Independent Energy Producers Association to Implement CAISO Market Design Modifications, August 26, 2005.
- **PPL Corporation**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL Resource Adequacy Market Proposal, Docket No. PL05-7-000*  
“A Policy Analysis of PJM’s Proposed Four-Year Forward Capacity Market” (with Joseph P. Kalt), June 16, 2005.
- **PPL EnergyPlus**  
*United States of America, Before the Federal Energy Regulatory Commission, Docket ER00-1712-004, Request for Leave to Respond and Response of PPL Parties to Protest of PJM Industrial Customer Coalition and the PP&L Industrial Customer Alliance and to Comments of Joint Consumer Advocates*  
Supplemental Affidavit, December 16, 2004.
- **PPL Montana, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, RE: PPL Montana, LLC; PPL Colstrip I, LLC; PPL Colstrip II, LLC; Docket No. ER99-3491-\_\_, Compliance Filing: Triennial Market-Based Rate Update and Revised Tariff Sheet*  
Affidavit (filed with Joseph Kalt), November 9, 2004.
- **PPL Montana, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL Colstrip I, LLC; PPL Colstrip II, LLC; Docket No. ER99-3491-003, market power analysis in support of application for renewal of authority to sell electric energy and capacity at market-based rates.* Affidavit (filed with Joseph Kalt), November 9, 2004.
- **PPL EnergyPlus**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL EnergyPlus et al., Docket ER00-1712-004, market power analysis in support of application for renewal of authority to sell electric energy and capacity at market-based rates*

Supplemental Affidavit, November 9, 2004.

- **PPL Southwest Generation Holdings, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL Southwest Generation Holdings, LLC, Docket No. ER01-1870-002, market power analysis in support of application for renewal of authority to sell electric energy and capacity at market-based rates*  
Supplemental Affidavit, October 25, 2004.
- **PPL Wallingford Energy LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL Wallingford Energy LLC, Docket No. ER01-1559-002, market power analysis in support of application for renewal of authority to sell electric energy and capacity at market-based rates*  
Supplemental Affidavit, October 8, 2004.
- **PPL Wallingford Energy LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL Wallingford Energy LLC, Docket No. ER01-1559-002, market power analysis in support of application for renewal of authority to sell electric energy and capacity at market-based rates*  
Affidavit, July 12, 2004.
- **PPL Southwest Generation Holdings, LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL Southwest Generation Holdings, LLC, Docket No. ER01-1870-002, market power analysis in support of application for renewal of authority to sell electric energy and capacity at market-based rates*  
Affidavit, July 12, 2004.
- **PPL Wallingford Energy LLC**  
*United States of America, Before the Federal Energy Regulatory Commission, PPL Wallingford Energy LLC and PPL EnergyPlus, LLC, Petition for Rehearing, Request for Clarification and Request for Expedited Action on Rehearing and Clarification of PPL Wallingford Energy LLC and PPL EnergyPlus, LLC*  
Affidavit, June 16, 2003.
- **Massachusetts Department of Telecommunications and Energy**  
*Submission of comments on the investigation by the Massachusetts DTE on its own motion into the Provision of Default Service*  
DTE 02-40-B (with Charles Augustine), May 28, 2003.

## ARTICLES AND PUBLICATIONS

*Co-Located Load: Market, Economic, and Ratemaking Implications*, with Todd Schatzki and Megan Accordino (October 2024).

“Capacity Market Alternatives for a Decarbonized Grid: Prompt and Seasonal Markets,” with Todd Schatzki and Phillip Ross, prepared for ISO New England (ISO-NE) (January 2024).

“Economic and Environmental Benefits to Massachusetts from the Operation of the Seabrook Nuclear Plant,” with Jonathan Franklin (March 2023).

“Fuel and Energy Security in New York State: An Assessment of Winter Operational Risks for a Power System in Transition,” with Paul Hibbard et al., prepared for the New York Independent System Operator, Inc. (NYISO) (November 2023).

“When the wind doesn’t blow: The limits of intermittent resources and battery storage in the decarbonization of New England’s power system under increased electrification” (with Phillip H. Ross), *The Electricity Journal*, 33 (2020), pp. 1–11.

“Achieving Western States Greenhouse Gas (GHG) Reduction Objectives: Least-Cost Compliance in a Constantly Evolving Policy Environment,” with Todd Schatzki, prepared for the Public Generating Pool and Pacificorp (August 2020).

“Carbon Pricing for New England: Context, Key Factors, and Impacts,” with Paul Hibbard, prepared for the New England Power Generators Association, Inc. (June 2020).

“Ensuring Fuel Security for the Electricity System: New England and the Role of LNG,” with Kenneth Grant, *Utility Dive* (January 7, 2019).

“Promoting Competitive Power Markets and Growing Zero-Emission Resources in New England,” prepared for the New England Power Generators Association, Inc. (November 12, 2018).

“The Future of State-Subsidized Electric Generation Resources,” with Kenneth Grant, *Law360* (August 20, 2018).

“Ramp Capability Dispatch and Uncertain Intermittent Resource Output,” Rutgers Center for Research in Regulated Industries Advanced Workshop in Regulation and Competition, 31st Annual Western Conference, Hyatt Regency, Monterey, California, June 27-29, 2018 (with Scott Harvey) 6-21-2018, Revised 7-17-2018.

“Growing Evidence of Increased Frequency of Negative Electricity Prices in U.S. Wholesale Electricity Markets,” with Maheen Bajwa, *IAEE Energy Forum*, pp. 37-41, Fourth Quarter 2017.

“Rethinking Government Subsidies for Renewable Electricity Generation Resources,” *The Electricity Journal*, 30, pp. 1-7 (2017).

*Economists’ Amici Brief to the United States Supreme Court*, In re: Long-Term Contracts for Energy Markets, No. 14-614, 14-623; with Gilbert, Richard J., et al. (January 19, 2016).

“The Polar Vortex: Implications for Improving the Efficiency of Wholesale Electricity Spot Market Pricing,” prepared for the Electric Power Supply Association (March 2014).

“Anatomy of Sealed-Bid Auctions. Bringing Flexibility and Efficiency to Energy RFPs,” with Andrew Lemon, *Public Utilities Fortnightly*, pp. 20-64 (June 2009).

“U.S. Centralized Wholesale Electricity Markets: An Update,” *International Association for Energy Economics Newsletter*, pp. 8-12 (First Quarter 2007).

“Power Procurement. What’s in Your Mix? Why Competitive Markets Are Scaring Regulators,” with Andrew Lemon, *Public Utilities Fortnightly*, pp. 49-54 (November 2006).

“Competition and Regulation in the Power Industry, Part III: Tensions Evolve Between Regulation and Competition,” with Charles Augustine and Joseph Kalt, *Electric Light & Power*, volume 84.01, pp. 24-25 (January/February 2006).



“Gradualism in Retail Restructuring.” with Charles Augustine and Joseph P. Kalt, *Electric Light & Power*, volume 83:05, pp. 26-30 (September/October 2005).

“Competition and Regulation in the Power Industry: Can the Two Coexist?” with Charles Augustine and Joseph Kalt, *Electric Light & Power*, volume 83.04, pp. 28-31 (July/August 2005).

“Ensuring The Future Construction of Electricity Generation Plants: The Challenge of Maintaining Reliability in New U.S. Wholesale Electricity Markets,” with Andrew Kolesnikov, *International Association for Energy Economics Newsletter* (First Quarter 2005).

“Electricity Company Affiliate Asset Transfer Self Build Policies: Renewed Regulatory Challenges,” with Scott T. Jones, *The Electricity Journal* (November 2004).

“Onward Restructuring,” *Hart Energy Markets*, Vol. 9, No. 9, p. 64 (September 2004).

“Competition and Regulation in the North American Electricity Industry: Can These Two Seemingly Opposed Forces Coexist?” with Charlie Augustine and Joseph P. Kalt, 24<sup>th</sup> Annual North American Conference of the USAEE/IAEE Proceedings, Washington, DC (July 9, 2004).

“Wholesale Electricity Procurement Strategies for Serving Retail Demand,” *International Association for Energy Economics Newsletter* (First Quarter 2004).

“Economic and Environmental Benefits of the Kings Park Energy Project: System Production Modeling Report,” with Susan F. Tierney (January 25, 2002).

“Economic and Environmental Benefits of the Wawayanda Energy Center: System Production Modeling Report,” with Susan F. Tierney (August 24, 2001).

“Air Pollution Reductions Resulting from the Kings Park Energy Project,” with Susan F. Tierney (January 24, 2001).

## **PRESENTATIONS AND SPEAKING ENGAGEMENTS**

“Overview of Ancillary Services, Regulation and Reserve Products in Wholesale Markets,” EUCI Ancillary Services Fundamentals and Market Dynamics (June 18, 2024).

“Overview of Ancillary Services, Regulation and Reserve Products in Wholesale Markets,” EUCI Ancillary Services Fundamentals and Market Dynamics (January 6, 2023).

“Getting ELCC Right – Managing the Changing Fleet,” EUCI Applying ELCC in ISOs and Utility Balancing Areas to Ensure Resource Adequacy (December 14, 2021).

“Overview of Ancillary Services, Regulation and Reserve Products in Wholesale Markets,” EUCI Ancillary Services Fundamentals and Market Dynamics (August 25, 2021).

“Market Power Monitoring and Mitigation in RTO/ISOs,” EUCI Electricity Market Power, Manipulation, Regulation and Enforcement (April 20, 2021).

“Critical Elements of Ancillary Services Market Design and Costing,” EUCI Ancillary Services Fundamentals and Market Dynamics Workshop (December 1, 2020).

“Achieving Western States Green House Gas (GHG) Reduction Objectives: Effective, Least-Cost Compliance in a Constantly Evolving Policy Environment,” presented with Todd Schatzki, Washington CETA Markets Workgroup (August 28, 2020).

“Carbon Pricing for New England,” NEPOOL Participants Committee Meeting (August 6, 2020).

“Fundamentals of Capacity Market Design and Performance,” EUCI Capacity Markets Workshop, (July 29, 2020).

“Fundamentals of Capacity Market Design and Performance,” EUCI Capacity Markets Workshop, Philadelphia, PA (May 1, 2019).

“Critical Elements of Ancillary Services Market Design and Costing,” EUCI Ancillary Services Markets Conference, Charleston, SC (March 19, 2019).

“Accommodating the Growing Supply of Zero-Emission Resources in U.S. Wholesale Power Markets, Institute for Energy Law Alternative & Renewable Energy Practice Committee, (January 23, 2019).

“Implementing Order No. 841: What Should We Expect?” K&L Gates, Energy Storage Association, Edison Electric Institute, 2<sup>nd</sup> Annual Energy Storage Conference, Washington, DC (November 29, 2018).

“Dumping Energy: Renewable Energy, Cost-Effective Curtailment and Remediating Negative Pricing Conditions,” EUCI Conference, Minneapolis, MN (July 12, 2018).

“Enhanced Reliability Unit Commitment: Fundamentals Design Elements 9-13,” presented with Scott Harvey and Susan Pope, Independent Electricity System Operator of Ontario, Toronto, Ontario (November 27, 2017).

“Enhanced Reliability Unit Commitment: Fundamentals Design Elements 1-8,” presented with Scott Harvey and Susan Pope, Independent Electricity System Operator of Ontario, Toronto, Ontario (October 30, 2017).

“The Growing Conflict between FERC Jurisdictional Electric Markets and State Policies,” 2017 White & Case Energy Conference (October 18, 2017).

“Enhanced Reliability Unit Commitment: Overview and Design Elements,” presented with Scott Harvey and Susan Pope, Independent Electricity System Operator of Ontario, Toronto, Ontario (October 11, 2017).

“Critical Elements of Ancillary Services Market Design and Costing,” EUCI Ancillary Services Markets Workshop, Austin Texas (February 17, 2017).

”What Are the Implications for Adequacy and Future Generation Builds?” Infocast, Panelist, RPM and CP BRA Auction Results, PJM Market Summit 2016 (September 8, 2016).

“What Are the Implications for Adequacy, and Future Generation Builds?” Infocast, Panelist, RPM and CP BRA Auction Results, PJM Market Summit 2015 (September 17, 2015).

Panelist, Congressional Staff Briefing regarding the financial repercussions of the EPA’s Clean Power Plan to public power plants, electric co-operatives, and merchant power plants, Stranded Assets Panel – Focusing on Financial Impacts to Public Power, Co-Ops, and Merchant Power Plants Under EPA’s 111 (d) Clean Power Plan, Washington DC (March 2, 2015).

“Lessons Learned from Existing Scarcity and Shortage Pricing Rules,” Price Formation in Energy and Ancillary Services Markets Operated by Regional Transmission Organizations and Independent System Operators, Scarcity and Shortage Pricing, Offer Mitigation, and Offer Caps Workshop, Federal Energy Regulatory Commission, Docket No. AD14-14-000 (October 28, 2014).

“Impacts of Offer Caps and Market Power Mitigation,” Price Formation in Energy and Ancillary Services Markets Operated by Regional Transmission Organizations and Independent System Operators, Scarcity and Shortage Pricing, Offer Mitigation, and Offer Caps Workshop, Federal Energy Regulatory Commission, Docket No. AD14-14-000 (October 28, 2014).

Led a Congressional Staff Briefing examining section 111(d) of the Clean Air Act, Stranded Assets Panel – Focusing on the Impacts of EPA’s GHG Proposal for Existing Plants Under 111(d), Washington, DC (July 30, 2014).

“Forward Capacity Auctions: Financial, Physical, or Both,” EUCI (November 7, 2013).

“Capacity Market Performance Incentives,” EUCI (November 7, 2013).

“Fundamentals of Capacity Market Design and Performance,” EUCI (November 6, 2013).

“Electricity Industry Fundamentals,” EUCI (January 29-30, 2013).

“Market Power Monitoring and Mitigation in Electric Capacity Markets,” Capacity Markets: Achieving Market Price Equilibrium?, EUCI (October 4, 2012).

“Market Power Monitoring and Mitigation in Electric Capacity Markets,” Capacity Markets: Achieving Market Price Equilibrium?, EUCI (November 7, 2011).

“Economics and Regulation of Large Scale Renewable Resource Electricity System Transmission Additions,” Center for Research in Regulated Industries, Eastern Conference, Rutgers University (May 6, 2010).

“PJM’s RPM Auctions: Emerging and Unsettled Issues,” NECA Power Markets Conference (November 1, 2007).

“Locational Capacity Markets: Understanding the Upside,” New York City, July 8, 2006.

“Competition and Regulation in the North American Electricity Industry: Can These Two Seemingly Opposed Forces Coexist?” 24<sup>th</sup> Annual North American Conference of the USAEE/IAEE, Washington, DC (July 9, 2004).

“Merchant Transmission Investment Regimes: An Outsider’s Observations,” The East Coast Energy Group (April 16, 2004).

“Wholesale Procurement Strategies for the Restructured Electricity Markets: Experiences from the Field,” Platts First Annual Electricity Market Design Imperative, Chicago, IL (November 6, 2003).

“Power Plant Technologies and Characteristics,” The Harvard Institute for International Development’s Third Annual Program on Climate Change and Development, Cambridge, MA (June 19, 2000).

“Transmission Planning & Investment in the RTO Era,” with John Farr and Susan F. Tierney, workshop at Infocast Conference on Transmission Pricing, Chicago, IL (May 1, 2000).

“The US Market for Merchant Plants—Outlooks, Opportunities and Impediments,” CBI’s 4<sup>th</sup> Annual Profit from Merchant Plants Conference (January 31, 2000).

“Projecting Electricity Prices for a Restructured Electricity Industry,” EXNET Merchant Power Plant Conference, Washington, DC (June 3, 1999).

“Transmission Planning and Competitive Generation Markets: The New England Case,” EUCI conference on Transmission Restructuring for Retail Competition, Denver, CO (March 25, 1999).

“Key Issues in Ancillary Service Markets,” IBC’s conference on Pricing and Selling Ancillary Services in a Competitive Market Conference, San Francisco, CA (March 11, 1999).

“Successfully Forecasting the Price of Energy and Other Products,” workshop presented at IBC’s conference on Successful Load Profiling, San Francisco, CA (December 2, 1998).

“International Perspective: Lessons from the US Deregulation Experience,” Nordic Power ’98, Stockholm, Sweden (October 7, 1998).

“Successfully Forecasting the Price of Energy and Other Products in a Restructured Electric Power Industry,” workshop presented at IBC’s 3<sup>rd</sup> Strategic Forum on Market Price Forecasting, Baltimore, MD (August 24, 1998).

“Managing Market Share Loss with the Opening of Retail Markets to Competition,” Electric Utility Business Environment Conference, Denver, CO (June 24, 1998).

“Multi-Attribute Trade-Off Analysis for Water and Electricity Policy Development,” presented in Mendoza, Argentina, (July 1996 and April 1997).

“The Basics of Cogeneration,” Tufts University Forum on Energy Conservation (December 1993).

“Implications and History of the MIT Cogeneration Project,” presented to the Massachusetts Society of Professional Engineers (November 1993).

### **CERTIFICATIONS/ACCREDITATIONS**

1992–Present    Registered Professional Engineer, Commonwealth of Massachusetts

### **PROFESSIONAL ASSOCIATIONS AND MEMBERSHIPS**

2002–2012    Board of Directors, Northeast Energy and Commerce Association