



## **STEVEN A. FENRICK, Principal**

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### **SUMMARY OF EXPERIENCE AND EXPERTISE**

- I have directed project teams and engaged in research in the fields of performance based regulation, performance benchmarking, DSM, load research and forecasting, and survey design and implementation
- I have been a expert witness in a number of cases involving performance-based ratemaking and incentive regulation and peak time rebates.

### **PROFESSIONAL EXPERIENCE**

#### **Clearspring Energy Advisors, LLC (2019 to Present)**

##### **Principal Consultant**

Responsible for providing consulting services and expert witness testimony to utilities and regulators in the areas of reliability and cost benchmarking, productivity studies and other empirical aspects of performance-based ratemaking and incentive regulation.

#### **Power System Engineering, Inc.– Madison, WI (2009 to 2018)**

##### **Director of Economics**

Responsible for providing consulting services to utilities and regulators in the areas of reliability and cost benchmarking, incentive regulation, value-based reliability planning, demand-side management including demand response and energy efficiency, ran peak time rebate programs, load research, load forecasting, end-use surveys, and market research.

#### **Pacific Economics Group – Madison, WI (2001 - 2009)**

##### **Senior Economist**

Co-authored research reports submitted as testimony in numerous proceedings in several states and in international jurisdictions. Research topics included statistical benchmarking, alternative regulation, and revenue decoupling. Managed and supervised PEG support staff in research and marketing efforts.

### **EDUCATION**

University of Wisconsin - Madison, WI

Bachelor of Science, Economics (Mathematical Emphasis)

University of Wisconsin - Madison, WI

Master of Science, Agriculture and Applied Economics

### **Publications & Papers**

- “Peak-Time Rebate Programs: A Success Story”, *TechSurveillance*, July 2014 (with David Williams and Chris Ivanov).

- “Demand Impact of a Critical Peak Pricing Program: Opt-In and Opt-Out Options, Green Attitudes and other Customer Characteristics”, *The Energy Journal*, January 2014. (With Lullit Getachew, Chris Ivanov, and Jeff Smith).
- “Evaluating the Cost of Reliability Improvement Programs”, *The Electricity Journal*, November 2013. (With Lullit Getachew)
- “Expected Useful Life of Energy Efficiency Improvements”, Cooperative Research Network, 2013 (with David Williams).
- “Cost and Reliability Comparisons of Underground and Overhead Power Lines”, *Utilities Policy*, March 2012. (With Lullit Getachew).
- “Formulating Appropriate Electric Reliability Targets and Performance Evaluations”, *Electricity Journal*, March 2012. (With Lullit Getachew)
- “Enabling Technologies and Energy Savings: The Case of EnergyWise Smart Meter Pilot of Connexus Energy”, *Utilities Policy*, November 2012. (With Chris Ivanov, Lullit Getachew, and Bethany Vittetoe)
- “The Value of Improving Load Factors through Demand-Side Management Programs”, Cooperative Research Network, 2012 (with David Williams and Chris Ivanov).
- “Estimation of the Effects of Price and Billing Frequency on Household Water Demand Using a Panel of Wisconsin Municipalities”, *Applied Economics Letters*, 2012, 19:14, 1373-1380.
- “Altreg Rate Designs Address Declining Average Gas Use”, *Natural Gas & Electricity*. April 2008. (With Mark Lowry, Lullit Getachew, and David Hovde).
- “Regulation of Gas Distributors with Declining Use per Customer”, *Dialogue*. August 2006. (With Mark Lowry and Lullit Getachew).
- “Balancing Reliability with Investment Costs: Assessing the Costs and Benefits of Reliability-Driven Power Transmission Projects.” April 2011. *RE Magazine*.
- “Ex-Post Cost, Productivity, and Reliability Performance Assessment Techniques for Power Distribution Utilities”. Master’s Thesis.
- “Demand Response: How Much Value is Really There?” *PSE whitepaper*.
- “How is My Utility Performing” *PSE whitepaper*.
- “Improving the Performance of Power Distributors by Statistical Performance Benchmarking” *PSE whitepaper*.
- “Peak Time Rebate Programs: Reducing Costs While Engaging Customers” *PSE whitepaper*.
- “Performance Based Regulation for Electric and Gas Distributors” *PSE whitepaper*.
- “Revenue Decoupling: Designing a Fair Revenue Adjustment Mechanism” *PSE whitepaper*.

## **Expert Witness Experience**

- Docket EB-2018-0165, Toronto Hydro Electric System Limited, Econometric Benchmarking research.
- Docket EB-2018-0218, Hydro One Transmission Sault St. Marie, TFP and Econometric Benchmarking research.
- Docket EB-2017-0049, Hydro One Distribution, TFP and Benchmarking research.
- Docket EB-2015-0004, Hydro Ottawa, Custom Incentive Regulation Application.
- Docket 15-SPEE-357-TAR, Application for Southern Pioneer Electric Cooperative, Inc., Demand Response Peak Time Rebate Pilot Program.
- Docket EB-2014-0116, Toronto Hydro, Custom Incentive Regulation Application.
- Docket EB-2010-0379, The Coalition of Large Distributors in Ontario regarding “Defining & Measuring Performance”.
- Docket No. 6690-CE-198, Wisconsin Public Service Corporation, “Application for Certificate of Authority for System Modernization and Reliability Project”.
- Expert Witness presentation to Connecticut Governors “Two Storm Panel”, 2012.
- Docket No. EB-2012-0064, Toronto Hydro’s Incremental Capital Module (ICM) request for added capital funding.
- Docket No. 09-0306, Central Illinois Light rate case filing.
- Docket No. 09-0307, Central Illinois Public Service Company rate case filing.
- Docket No. 09-0308, Illinois Power rate case filing.

## **Recent Conference Presentations**

- Institute of Public Utilities Advanced Rate Conference at Michigan State University, “Performance Benchmarking”. October 2018.
- Panel Moderator at WPUI conference on cost allocation and innovative rate designs at Madison WI. June 2018.
- Institute of Public Utilities Advanced Rate Conference at Michigan State University, “Performance Benchmarking”. October 2017.
- Wisconsin Manager’s Meeting, “Reliability Target Setting Using Econometric Benchmarking”. November 2016.
- Institute of Public Utilities Advanced Rate Conference at Michigan State University, “Performance Benchmarking”. October 2016.
- Wisconsin Electric Cooperative Association (WECA) Conference, “An Introduction to Peak Time Rebates”. September 2016.
- Institute of Public Utilities Advanced Rate Conference at Michigan State University, “Performance Benchmarking”. October 2015.
- EUCI conference chair, 2015. “Evaluating the Performance of Gas and Electric Distribution Utilities.”
- Institute of Public Utilities Advanced Rate Conference at Michigan State University, “Performance Benchmarking”. October 2014.
- Cooperative Exchange Conference, Williamsburg VA. “Smart Thermostat versus AC Direct Load Control Impacts”. August 2014.
- EUCI conference chair in Chicago. “The Economics of Demand Response”. February 2014.

- Institute of Public Utilities Advanced Rate Conference at Michigan State University, “Performance Benchmarking”. October 2013.
- EUCI conference chair in Chicago. “Evaluating the Performance of Gas and Electric Distribution Utilities.” August 2013.
- Presentation to the Ontario Energy Board, “Research and Recommendations on 4<sup>th</sup> Generation Incentive Regulation”.
- Presentation to the Canadian Electricity Association’s best practice working group. 2013
- Conference chair for EUCI conference in March 2013 titled, “Performance Benchmarking for Electric and Gas Distribution Utilities.”
- Presentation to the board of directors of Great Lakes Energy on benchmarking results, December 2012.
- Presentation on making optimal infrastructure investments and the impact on rates, Electricity Distribution Association, Toronto, Ontario. November 2012.
- Conference chair for EUCI conference in August 2012 titled, “Performance Benchmarking for Electric and Gas Distribution Utilities.”
- 2012 presentation in Springfield, IL to the Midwest Energy Association titled, “Reliability Target Setting and Performance Evaluation”.
- 2012 presentation in Springfield, IL to the Midwest Energy Association titled, “Making the Business Case for Reliability-Driven Investments”.
- Conference chair for EUCI conference in 2012 titled, “Balancing, Measuring, and Improving the Cost and Reliability Performance of Electric Distribution Utilities”. St. Louis.
- Conference chair for EUCI conference in 2012 titled, “Demand Response: The Economic and Technology Considerations from Pilot to Deployment”. St. Louis.
- 2012 Presentation in the Missouri PSC Smart Grid conference entitled, “Maximizing the Value of DSM Deployments”. Jefferson City.
- 2011 conference chair on a nationwide benchmarking conference for rural electrical cooperatives. Madison.
- 2011 presentation on optimizing demand response program at the CRN Summit. Cleveland.
- Conference chair for EUCI conference in 2011 titled, “Balancing, Measuring, and Improving the Cost and Reliability Performance of Electric Distribution Utilities”. Denver.
- 2010 presentation on cost benchmarking techniques for REMC. Wisconsin Dells.