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Robert Borlick has broad and diversified professional experience in economic and financial analyses, strategic planning and operations research, and has been employed in both the public and private sectors. He has more than 35 years of experience performing analyses and providing advice and litigation support to the electric power industry.

Mr. Borlick has advised numerous clients, both in the US and foreign countries, regarding electricity industry restructuring issues based on the competitive market model. This includes the market valuation of deregulated electric generation and transmission assets, and competitive procurement of electric power through auctions. More recently he has focused on the economic valuation of energy conservation, demand response, and renewable energy.

EDUCATION AND ACADEMIC HONORS

Mr. Borlick earned a B.S. in Electrical Engineering from the Illinois Institute of Technology and a M.S. in Electrical Engineering from the Ohio State University, where he was a Mershon Fellow. Mr. Borlick earned a M.B.A. from the Stanford Graduate School of Business as a Lockheed-Gross Fellow, graduating in the top decile of his class. While at Stanford he completed Ph.D. coursework in the Department of Engineering-Economic Systems.

REPRESENTATIVE CONSULTING EXPERIENCE

- Produced a study for the Consumer Energy Alliance comparing the total monetary incentives received by typical rooftop solar PV installations located in 15 representative US metropolitan areas with the monetary incentives received by a typical large-scale solar PV facility.
- Conducted a study for the Institute for Electric Innovation that examined the hidden subsidy provided by US net metering policy to rooftop solar PV facilities in California.
- Prepared the statements submitted by the Edison Electric Institute (EEI) to the FERC in response to its Notice of Proposed Rulemaking on economic demand response (Docket RM10-17-000) and EEI's Request for Rehearing of FERC Order 745.
- Advised the Midwest Independent System Operator (MISO) regarding resource adequacy and the design and implementation of demand response programs. He also assisted the MISO in drafting its statements to the FERC regarding economic demand response (Dockets ER08-404-000 and RM10-17-000) and its FERC Order 719 Compliance filing (Docket ER09-1049-002).

- Filed expert statements and participated as a panelist in a FERC workshop regarding the desirability of making “incentive payments” (i.e., subsidies) to demand response (Dockets RM07-19-000, AD07-7-000 and AD08-8-000).
- Co-authored the MISO white paper: “An Energy-Only Market for Resource Adequacy in the Midwest ISO Region,” November 23, 2005.
- Provided technical support to the law firm, King and Spalding, LLP, in litigation assessing the economic damages arising from a purchaser’s default on a 20-year power purchase agreement. One key issue was the appropriate discount rate used to reflect the risk of a merchant generator selling into the spot market. King and Spalding’s client received the full damages it claimed plus legal fees.

From 1999 to 2007 Mr. Borlick was a Senior Advisor with the *The Brattle Group* during which time he directed, or substantially contributed to, the following consulting projects:

- Developed a methodology for charging wind power generating plants for the additional ancillary services required to support them. The project modeled **Ireland**’s electric power market and also accounting for the stochastic nature of wind generator output.
- Developed a computer model for assessing the benefits and costs of real-time residential load control for a multinational corporation that marketed electric meters and load control equipment. The model accounted for changes in consumers’ surplus as well as changes in the monetary outlays of the utility and its customers.
- Conducted an auction of the AES Warrior Run generating plant’s output of capacity, energy and ancillary services for years 2002-2004. He developed the Request for Quotations, assisted with drafting the Power Supply Agreement, interfaced with the bidders, evaluated the bids and assisted with contract negotiations.
- Conducted an auction of slice-of-system capacity and energy for Carolina Power & Light Company and Florida Power Corporation. He developed the Request for Proposals, conducted a pre-bid conference, responded to bidders’ questions, evaluated the bids and negotiated the purchase agreements.
- Provided support to Florida Power Corporation in designing a Request for Proposals for the competitive procurement of purchased power and in evaluating the offers received. The project quantified the impact on the utility’s revenue requirements and included the option value of deferring long-term commitments.

- Provided support to Houston Lighting and Power Corp in litigation claiming that the utility systematically underpaid its franchise taxes since 1957 by selectively excluding certain electric revenues from the tax base.

From 1988 to 1999 Mr. Borlick was a Principal with Putnam, Hayes & Bartlett, Inc. or Hagler Bailly, Inc. During that period his consulting activities included the following:

- Managed a project that forecasted the 10-year cash flows of a portfolio of generating assets owned by Dynegy and assessed its ability to service new debt financing. This “cutting-edge” analysis explicitly accounted for the portfolio’s option value in responding to electric and natural gas price volatility.
- Developed the Asian Development Bank’s Terms of Reference for the infrastructure projects required to support competitive electricity markets in Indonesia and the Philippines.
- Modeled the impacts of Canada’s newly created Ontario Electric Generation Company exercising its market power in the restructured Ontario electricity market. Also developed tools for mitigating that market power.
- Presented expert witness testimony quantifying the damages suffered by El Salvador due to the negligence of a US architect/engineering firm that caused the premature failure of several new combustion turbine generators.
- Developed a methodology for forecasting generation capacity prices in a competitive power market that was used in a stranded assets proceeding before the Pennsylvania Public Utilities Commission.
- Advised senior management of the New Zealand electric transmission company, TransPower, on the design of the New Zealand competitive electricity market.
- Developed a competitive market structure and contractual arrangements for the procurement and cost recovery of ancillary services in New Zealand.
- Proposed an innovative methodology for procuring and deploying ancillary services in the Australian National Electricity Market.
- Developed market rules defining the trading arrangements for a competitive electricity market in Singapore.

- Directed a team that developed financial and tariff models used to simulate the impact of a restructured Uttar Pradesh (India) State Electricity Board under a World Bank contract.
- Co-chaired a joint Russian-US working group sponsored by USAID that developed recommendations for restructuring and privatising the Russian electric power sector.
- Served on a USAID-funded task force of international consultants advising the Government on the restructuring and privatisation of that country's state-owned energy industries.
- Conducted a series of USAID-funded workshops on industry restructuring and market-based pricing of electricity for the Polish Power Grid Company.
- Developed recommendations for the Bulgarian government regarding the restructuring of its national electric utility (NEK) through a contract with USAID.
- Quantified the likely impacts of privatising Canada's Ontario Hydropower system on electricity prices and the market values of Ontario generating assets.
- Produced an economic comparison of the contract prices for the AES Northside power project with the avoided costs of Baltimore Gas & Electric Company.
- Conducted an economic evaluation of competing coal-fired and oil-fired private power projects proposed for Jamaica.
- Developed a computer model for forecasting the market prices of tradable sulfur dioxide emissions allowances created by the Clean Air Act Amendments of 1990.
- Directed an evaluation of the competitive offers responding to a Hawaiian Electric Company solicitation for a geothermal generating project on the island of Hawaii.
- Assessed the economic attractiveness of a lignite-fired independent power project proposed for construction in Northern Ireland.
- Developed a line-of-business financial planning model for the South of Scotland Electricity Board for use in conducting regulatory and resource planning analyses of the England/Wales privatised electricity supply industry.
- Developed a generation dispatch model for simulating market prices in the England-Wales power pool.

- Advised the Area Electricity Supply Boards in England and Wales on a myriad of issues related to their privatisation, including power contract purchase strategies and use of system charges.
- Conducted an independent assessment of the least-cost planning activities of Potomac Electric Power Company and of its decision to construct new generating capacity.

From 1984 through 1987, Mr. Borlick was co-founder and Executive Vice President of Utility Strategies, Inc. (USI), a consulting firm that advised clients on electric and natural gas issues.

- Directed a study that compared the economic benefits and costs associated with the completion versus cancellation of the South Texas Nuclear Project and provided expert witness testimony on behalf of the project's owners.
- Provided litigation support to the Bonneville Power Administration (BPA) in defense of its decision to defer construction of the WPPSS-3 nuclear generating unit.
- Produced a report for the Edison Electric Institute (EEI), addressing integrated resource planning based on the economic welfare of utility customers.
- Conducted management audits of the resource planning processes at American Electric Power, Central Hudson Gas & Electric, Orange and Rockland, and Ohio Edison.

Prior to co-founding USI, Mr. Borlick was an independent consultant, conducting analyses in the areas of electric utility system planning, ratemaking, economics and regulation. His clients included investor-owned utilities, EEI and the U.S. Department of Energy (DOE). He authored the popular DOE report, *Nuclear Plant Cancellations: Causes, Costs and Consequences*, April 1983.

Earlier, Mr. Borlick served as the Director of Consulting and Regulatory Analysis with Energy Management Associates, Inc., a firm that marketed resource and financial planning software for the electric and gas utility industries. In that capacity he directed a resource planning study for Middle South Utilities (now Entergy) that was later introduced in a FERC proceeding that allocated the construction costs of the Grand Gulf nuclear plant among MSU's electric operating companies.

Mr. Borlick also held various management positions within the U.S. Environmental Protection Agency, the Federal Energy Administration and the U.S. Department of Energy. During the energy crisis of the 1970s, he helped shape federal policies on various issues, including marginal cost-based electric rates and rail tariffs for coal movement. He presented testimony before the Interstate Commerce Commission regarding the latter issue.

While a commissioned officer in the United States Navy Mr. Borlick served on the staff of Admiral H. G. Rickover in the Office of Naval Reactors, Washington D.C., and as an engineering officer aboard the USS Essex, CVS-9.

PUBLICATIONS, TESTIMONY AND PRESENTED PAPERS

“An In-Depth Analysis of U.S. Solar Incentives,” Consumer Energy Alliance, August 2016.

“Net Energy Metering: Subsidy Issues And Regulatory Solutions - Issue Brief,” Institute for Electric Innovation, September 2014, (Co-authored with Lisa Wood, Executive Director, IEI).

“Comments Of Robert L. Borlick On the Brattle group Study of ERCOT investment Incentives and Resource Adequacy,” Prepared Statement submitted to the Public Utility Commission of Texas, Project No. 40480, Proceeding Regarding Policy Options on Resource Adequacy, July 2012.

“Demand Response in Wholesale Power Markets,” presentation to the Wanger Institute for Sustainable Energy Research, Illinois Institute of Technology, Chicago, Illinois, September 2012.

“Demand Response & Energy Efficiency in Wholesale Power Markets,” presentation to the EEI Transmission and Wholesale Markets School, Madison, Wisconsin, August 2012.

“Role of Retail Regulation in Demand Response,” presentation to the Mid-Atlantic Distributed Resources Initiative Working Group, February 2012.

“The Limit To Cost-Beneficial Demand Response,” presentation at Restructuring Today Webinar, *The Future of Demand Response: How High Can It Go?* December 2011.

“The Economic Principles of Demand Response in Wholesale Electricity Markets,” presentation before the EUCI Conference on Demand Response, Arlington, Virginia, November 2011.

“Paying for Demand-Side Response at the Wholesale Level: The Small Consumers’ Perspective,” article in *The Electricity Journal*, November 2011, Vol. 24, Issue 9.

Prepared statement submitted in FERC Docket No. RM10-10-000, Planning Resource Adequacy Assessment Reliability Standard, December 2010.

“Pricing Negawatts – DR Design Flaws Create Perverse Incentives,” article in *Public Utilities Fortnightly*, August 2010.

Prepared statement submitted in FERC Docket No. ER10-17-000, Demand Response Compensation in Organized Wholesale Energy Markets, May, 2010.

Prepared statement submitted in FERC Docket No. EL09-68-000, PJM Proposed Tariff Changes to Strengthen Demand Response, September 2009.

“The Capacity Value of Demand Response,” presentation before the 32nd Annual Conference of the International Association of Energy Economists, San Francisco, California, June 2009.

Prepared statement submitted in FERC Docket No. AD08-8-000, Technical Conference on Demand Response in Organized Markets, May 2008.

Prepared statement submitted in FERC Dockets Nos. RM07-19-000 and AD07-7-000, Notice of Proposed Rulemaking - Wholesale Competition in Regions with Organized Electric Markets, April 2008.

“Overview of the DR Programs of the Organized Markets,” a presentation at the ELCON Spring Workshop, St. Louis, Missouri, June 2007.

Prepared statement submitted in FERC Docket No. AD07-7-000, Technical Conference on Competition in Wholesale Markets, May 2007.

“Optimizing the Co-Production of Operating Reserve: The New Nirvana?” presentation before the 26th USAEE/IAEE North American Conference, Ann Arbor, Michigan, September 2006.

“An Energy-Only Market for Resource Adequacy in the Midwest ISO Region,” MIDWEST ISO, November 2005, Carmel, IN. (Co-authored with John Chandley of LECG).

“Mandatory Reserve Margins – Good Idea or Not?” presentation before the 26th Annual Conference of the International Association of Energy Economists, June 2003, Prague, Czech Republic.

“Competitive Electricity Markets *Can* Provide Optimum Levels of Generating Capacity,” paper presented at the IBC Conference on Reliability for Competitive Power, December 1998, Atlanta, GA.

“Restructuring the El Salvador Electricity Sector: Transmission System Charges and Transaction Unit Charges,” Expert Report, Putnam, Hayes & Bartlett, Inc., May 1997.

“Options for Procuring Grid Security Services,” PHB Working Paper, August 1996.

“Pool Rules,” Public Utilities Board - Singapore, Deloitte & Touche Ltd./Putnam, Hayes & Bartlett, Inc., Singapore, December 1995.

“Restructuring Russia's Electric Power Sector,” Progress Report of the Joint Russian-American Working Group on Power Sector Restructuring and Privatisation, RCG/Hagler Bailly, Inc., Moscow, Russia, April 1994.

“When 'Least-Cost' Is Wrong,” *Public Utilities Fortnightly*, January 1994.

“Least-Cost - The Wrong Objective for Integrated Resource Planning,” paper presented at the Second International Energy Efficiency & DSM Conference, September 1993, Stockholm, Sweden.

“The Electricity Sub-sector of Bulgaria - Organizational Issues and Structural Options,” Final Report, RCG/Hagler Bailly, Inc., Arlington, VA, August 1993.

“Northern Ireland Generating Capacity Planning Study,” A Report for Meekatharra Minerals, Limited, Putnam, Hayes & Bartlett, Limited, London, UK, September 1990.

“A Benefit-Cost Approach to Least-Cost Planning,” Edison Electric Institute, Washington, DC, October 1987.

“A Cost-Benefit Analysis of Completion Alternatives for the South Texas Project,” Expert Report, Utility Strategies, Inc., August 1986.

Direct Testimony before the Public Utility Commission of Texas, addressing the economics of canceling the South Texas Project, Docket No. 5779, Application of Houston Lighting & Power Company for Authority to Change Rates, September 1984.

“Competitiveness of Montana Coal,” Expert Witness report for State of Montana, November 1983 (Co-authored with Robert Leilich of Corporate Strategies, Inc.)

“Nuclear Plant Cancellations: Causes, Costs and Consequences,” U.S. Energy Information Administration, Washington, DC, April 1983.

“Regionalized Capital and Operation and Maintenance Cost Estimates for Emission Control Equipment Required for New Coal-Fired Power Plants,” J.A. Reyes Associates, Washington, DC, May 1982.

“Capacity Planning, Reliability and Outage Costs in Electricity Supply - Comments,” Challenges for Public Utility Regulation in the 1980s, Proceedings of the Institute of Public Utilities, Twelfth Annual Conference, Michigan State University, East Lansing, MI, December 1981.

“Middle South Utilities, Optimal Generation Expansion Study,” Final Report, Energy Management Associates, Atlanta, GA, March 1980.

“A Benefit-Cost Framework for Evaluating New Pricing Concepts and Rate Structure Reform,” Issues in Public Utility Regulation, Proceedings of the Institute of Public Utilities, Tenth Annual Conference, Michigan State University, East Lansing, MI, 1979.

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