

Exhibit No. KGS-2
Docket UE-15____
Witness: Kurt G. Strunk

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

In the Matter of

PACIFIC POWER & LIGHT
COMPANY,

Petition For a Rate Increase Based on a Modified
Commission Basis Report, Two-Year Rate Plan,
and Decoupling Mechanism.

Docket UE-15____

PACIFIC POWER & LIGHT COMPANY

EXHIBIT OF KURT G. STRUNK

Experience

November 2015

KURT G. STRUNK

Vice President

Mr. Strunk is an expert on energy sector matters. He serves as a consulting and testifying expert in regulatory proceedings, commercial litigation, and arbitration proceedings. He has been retained as an expert to testify before the Federal Energy Regulatory Commission, US Tax Court, US Federal Court, and US Bankruptcy Court, the National Energy Board in Canada, as well as before state and provincial public utilities boards in the US and Canada. His testimonies have addressed the application of the just and reasonable standard, prudence, cost of service, regulatory reform, asset and contract valuation, cost of capital, pipeline access and retail market issues. He has served as an advisor in over fifty public utility rate cases.

In electric power, Mr. Strunk has advised governments, regulators, and energy companies on industry structure, regulation, and sector reform in North America, South America, Europe, Australia, Asia and Africa. He has worked extensively on matters related to all aspects of the electric power sector, including generation, transmission, distribution and retailing. With regard to transmission, he has advised on the design of transmission tariffs and on the design of electricity markets to encourage efficient transmission investment. In generation, Mr. Strunk advised Mexico's Comisión Federal de Electricidad on the development of its independent power program, its infrastructure contracts, fuel supply arrangements and competitive solicitations. In the Republic of Ireland, Mr. Strunk advised the Commission for Energy Regulation ("CER") on the development of a solicitation and contractual framework for the construction of a 400 MW power generation facility, including gas supply. He is currently advising on the electric sector reform program in Mexico and associated power market design.

In the oil and gas sectors, Mr. Strunk has advised companies on rate matters, mergers and acquisitions, restructurings, contract disputes, and product pricing. He served as an expert in regulatory hearings relating to gas transportation tariffs in Canada and the United States. He has conducted numerous analyses to determine the economic value of gas and petroleum swaps. He has also carried out studies of the reasonableness of gas supply agreements in various jurisdictions. He has valued oil and gas assets and assessed damages in litigated disputes on behalf of major firms in the petroleum sector.

Mr. Strunk's assignments often require that he determines the appropriate return on equity capital for energy firms. He has calculated and supported required rates of return for power generators, gas distribution utilities, electric distribution and transmission companies, and other energy firms in the context of traditional tariff reviews for regulated entities, litigation and advisory work. Mr. Strunk frequently collaborates with NERA's Securities and Finance Practice. He has addressed liability and damages in broker-dealer disputes, and in securities class actions.

Education

- 1997** **INSEAD (The European Institute of Business Administration),
Fontainebleau, France**
MBA, with Distinction, 1997
- 1993** **VASSAR COLLEGE,**
New York, USA
B.A., Economics, General and Departmental Honors

Career Details

- 2012–Present** **NERA ECONOMIC CONSULTING**
Vice President, New York
- 2005–2012** **NERA ECONOMIC CONSULTING**
Senior Consultant, New York
- 2003–2004** **NERA ECONOMIC CONSULTING**
Outside Consultant, New York
- 2000–2002** **NERA ECONOMIC CONSULTING**
Senior Consultant, New York
- 1998–1999** **NERA ECONOMIC CONSULTING**
Senior Analyst, New York
- 1996** **NERA ECONOMIC CONSULTING**
Associate Analyst, New York
- 1994–1995** **NERA ECONOMIC CONSULTING**
Research Associate, New York
- 1993–1994** **NERA ECONOMIC CONSULTING**
Research Assistant, New York
- 1992** **GÉNÉRALE DE BANQUE**
Research Assistant, Brussels

Languages

- English: mother tongue
French: fluent
Spanish: fluent

Project Experience

EXPERT TESTIMONY

- 2015** **Chugach Electric Association, Inc.**
Regulatory principles for attributing found natural gas
Oral testimony before the Regulatory Commission of Alaska, addressing the regulatory treatment of gas found by the Cook Inlet Natural Gas Storage Alaska LLC, August 31, 2015.
- 2015** **Baltimore Gas & Electric Company**
Risks and rate of return for retail electricity business
Oral Testimony before the Maryland Public Service Commission, *in the Matter of Baltimore Gas & Electric's Application to Recover Cash Working Capital for Standard Offer Service*, Case No. 9221, August 5, 2015.
- 2015** **Baltimore Gas & Electric Company**
Risks and rate of return for retail electricity business
Rebuttal Testimony before the Maryland Public Service Commission, *in the Matter of Baltimore Gas & Electric's Application to Recover Cash Working Capital for Standard Offer Service*, Case No. 9221, July 22, 2015.
- 2015** **Chugach Electric Association, Inc.**
Regulatory principles for attributing found natural gas
Testimony before the Regulatory Commission of Alaska, addressing the regulatory treatment of gas found by the Cook Inlet Natural Gas Storage Alaska LLC, June 5, 2015.
- 2015** **ATX Southwest, LLC.**
Cost of Capital
Direct Testimony before the Federal Energy Regulatory Commission, on behalf of ATX Southwest, addressing return on equity, May 28, 2015.
- 2015** **Chugach Electric Association, Inc.**
Cost of Capital
Responsive Testimony before the Regulatory Commission of Alaska, addressing return on equity for the Enstar Natural Gas Company, May 15, 2015.
- 2015** **Baltimore Gas & Electric Company**
Risks and rate of return for retail electricity business
Testimony before the Maryland Public Service Commission, *in the Matter*

of Baltimore Gas & Electric's Application to Recover Cash Working Capital for Standard Offer Service, Case No. 9221, April 22, 2015.

- 2015** **NV Energy**
Cost of Gas / Prudence
Direct Testimony before the Nevada Public Utilities Commission, on behalf of NV Energy, addressing the reasonableness of the Company's natural gas purchases, March 1, 2015.
- 2014** **PacifiCorp**
Cost of capital
Oral Testimony before the Washington Utilities and Transportation Commission, on behalf of PacifiCorp, on the cost of capital in the Company's general rate case, December 16, 2014.
- 2014** **PacifiCorp**
Cost of capital
Rebuttal Testimony before the Washington Utilities and Transportation Commission, on behalf of PacifiCorp, on the cost of capital in the Company's general rate case, November 21, 2014.
- 2014** **PacifiCorp**
Cost of capital
Direct Testimony before the Washington Utilities and Transportation Commission, on behalf of PacifiCorp, on the cost of capital in the Company's general rate case, April 30, 2014.
- 2014** **Nevada Power Company**
Cost of capital
Direct Testimony before the Nevada Public Utilities Commission, on behalf of Nevada Power Company, on the cost of capital in the Company's general rate case, April 30, 2014.
- 2015** **NV Energy**
Cost of Gas / Prudence
Direct Testimony before the Nevada Public Utilities Commission, on behalf of NV Energy, addressing the reasonableness of the Company's natural gas purchases, March 1, 2014.
- 2013** **Sierra Pacific Power Company**
Cost of capital
Oral testimony, before the Nevada Public Utilities Commission, on behalf of Sierra Pacific Power Company, on the cost of capital for the gas and electric divisions in the Company's general rate case, October 7, 2013.

- 2013** **Sierra Pacific Power Company**
Cost of capital
Rebuttal Testimony before the Nevada Public Utilities Commission, on behalf of Sierra Pacific Power Company, on the cost of capital for the gas and electric divisions in the Company's general rate case, September 25, 2013.
- 2013** **Market Area Shippers**
(Gaz Métro, Union Gas and Enbridge Gas Distribution)
Contract Renewal Alternatives for Regulated Pipeline Service
Pre-filed Expert Report, with Jeff Makhholm, before the National Energy Board of Canada, in the Matter of TransCanada's Application for Tariff Amendments, Hearing Order RH-001-2013, July 26, 2013.
- 2013** **Sierra Pacific Power Company**
Cost of capital
Direct Testimony before the Nevada Public Utilities Commission, on behalf of Sierra Pacific Power Company, on the cost of capital for the gas and electric divisions in the Company's general rate case, June 4, 2013.
- 2013** **NV Energy Operating Companies**
Cost of capital
Direct Testimony before the Federal Energy Regulatory Commission, on behalf of NV Energy Operating Companies, on the appropriate rate of return for the consolidated transmission system, May 31, 2013.
- 2013** **Public Intervenor**
Wholesale Margins for Regulated Motor Fuels and Heating Oil
Oral testimony before the New Brunswick Energy and Utilities Board, *In the Matter of an Application by Irving Oil Marketing GP and Irving Oil Commercial GP requesting an increase in the wholesale margins for motor fuels and heating oil*, January 29, 2013.
- 2013** **Public Intervenor**
Power sector modelling, deferral account policy, financial analysis
Oral testimony before the New Brunswick Energy and Utilities Board, *In the Matter of the Point Lepreau Nuclear Generating Station Deferral Account and Section 143.1 of the Electricity Act*, January 15, 2013.
- 2012** **Baltimore Gas & Electric Company**
Potomac Electric Power Company
Power Purchase Agreements, Retail electric competition
Oral testimony before the Maryland Public Service Commission *In the Matter of Whether New Generation Resources Are Needed to Meet Long-*

Term Demand for Standard Offer Service, Case No. 9214, November 26, 2012.

2012

Public Intervenor

Power sector modelling, deferral account policy, financial analysis

Pre-filed Expert Report before the New Brunswick Energy and Utilities Board *In the Matter of the Point Lepreau Nuclear Generating Station Deferral Account and Section 143.1 of the Electricity Act*, November 26, 2012.

2012

Nevada Power Company

Cost of capital

Pre-filed testimony before the Federal Energy Regulatory Commission in the Nevada Power Company's Transmission Rate Case, October 31, 2012.

2012

Public Intervenor

Wholesale margins for regulated motor fuels and heating oil

Pre-filed Expert Report before the New Brunswick Energy and Utilities Board *In the Matter of an Application by Irving Oil Marketing G.P. and Irving Oil Commercial G.P. Requesting an Increase in the Wholesale Margins for Motor Fuels and Heating Oil*, October 26, 2012.

2012

Nevada Power Company

Prudence of gas costs for 2012

Pre-filed Expert Report before the Nevada Public Utilities Commission *In the Nevada Power Company's 2012 Deferred Energy Filing*, March 1, 2012.

2012

Sierra Pacific Power Company

Prudence of gas costs for 2012

Pre-filed Expert Report before the Nevada Public Utilities Commission *In the Nevada Power Company's 2012 Deferred Energy Filing*, March 1, 2012.

2011

Public Intervenor

Power system loss factors, OATT, transmission regulatory policy

Pre-filed Expert Report before the New Brunswick Energy and Utilities Board *In the Matter of a Review of the Proposed Change to the New Brunswick System Operator's Real Power Loss Factor*, October 31, 2011.

2011

John Hancock

Risk analysis of European power plant leveraged lease

Oral Testimony before the U.S. Tax Court, on behalf of plaintiff in *John Hancock Life Insurance Company and Subsidiaries v. Commissioner of Internal Revenue*, October 24, 2011.

- 2011** **John Hancock**
Risk analysis of European power plant leveraged lease
Rebuttal Expert Report before the U.S. Tax Court, on behalf of plaintiff in *John Hancock Life Insurance Company and Subsidiaries v. Commissioner of Internal Revenue*, August 19, 2011.
- 2011** **John Hancock**
Risk analysis of European power plant leveraged lease
Pre-filed Expert Report before the U.S. Tax Court on behalf of plaintiff in *John Hancock Life Insurance Company and Subsidiaries v. Commissioner of Internal Revenue*, July 8, 2011.
- 2011** **Public Intervenor**
OATT, transmission regulatory policy
Pre-filed Expert Report before the New Brunswick Energy and Utilities Board, *in the Review of the Proposed Changes to the New Brunswick System Operator's Open Access Transmission Tariff*, February 21, 2011.
- 2011** **Public Intervenor**
Power system loss factor, OATT, transmission regulatory policy
Pre-filed Expert Report before the New Brunswick Energy and Utilities Board, *in the Review of the New Brunswick System Operator's Proposed Change to its Loss Factor*, February 3, 2011.
- 2011** **Baltimore Gas & Electric Company**
Risks and rate of return for retail electricity business
Oral testimony before the Maryland Public Service Commission, *in the Matter of Baltimore Gas & Electric's Application to Recover Cash Working Capital for Standard Offer Service*, Case No. 9221, January 20, 2011.
- 2010** **Baltimore Gas & Electric Company**
Risks and rate of return for retail electricity business
Pre-filed Expert Report before the Maryland Public Service Commission, *in the Matter of Baltimore Gas & Electric's Application to Recover Cash Working Capital for Standard Offer Service*, Case No. 9221, September 17, 2010.
- 2010** **Public Intervenor**
Greenfield gas distributor, cost of service, just and reasonable rates
Oral testimony before the New Brunswick Energy & Utilities Board, in the *Enbridge Gas New Brunswick Rate Case*, March 30, 2010.

- 2010** **Public Intervenor**
Greenfield gas distributor, cost of service, just and reasonable rates
Pre-filed Expert Report before the New Brunswick Energy and Utilities Board, *in the Matter of Enbridge Gas New Brunswick Rate Case*, March 12, 2010.
- 2009** **Public Intervenor**
Greenfield gas distributor, cost of service, just and reasonable rates
Oral testimony before the New Brunswick Energy & Utilities Board, *in the Review of Matters related to the Regulation of Enbridge Gas New Brunswick*, October 23, 2009.
- 2009** **Public Intervenor**
Greenfield gas distributor, cost of service, just and reasonable rates
Pre-filed Expert Report before the New Brunswick Energy and Utilities Board, *in the Matter of the Annual Financial Review of Enbridge Gas New Brunswick Limited Partnership*, August 21, 2009.
- 2009** **Public Intervenor**
Greenfield gas distributor, cost of service, just and reasonable rates
Oral testimony before the New Brunswick Energy and Utilities Board, *in the Matter of the Annual Financial Review of Enbridge Gas New Brunswick Limited Partnership*, September 15, 2009.
- 2009** **Public Intervenor**
Greenfield gas distributor, cost of service, just and reasonable rates
Pre-filed Expert Report before the New Brunswick Energy and Utilities Board, *in the Matter of a Review of Matters Related to the Regulation of Enbridge Gas New Brunswick Limited Partnership*, September 21, 2009.
- 2009** **The City of New York**
Cost of service, incentives and taxi lease rates
Oral testimony in the District Court for the Southern District of New York in *Metropolitan Taxicab Board of Trade et al. v. The City of New York et al.*, on the issue of whether the Taxi and Limousine Commission's new maximum lease rates constitute a fuel efficiency and emissions mandate that would be preempted by Federal law, May 20, 2009.
- 2009** **The City of New York**
Cost of service, incentives and taxi lease rates
Pre-filed expert Report in the United States District Court for the Southern District of New York in *Metropolitan Taxicab Board of Trade et al. v. The City of New York et al.*, on the issue of whether the Taxi and Limousine Commission's new maximum lease rates constitute a fuel efficiency and

emissions mandate that would be preempted by Federal law, May 18, 2009.

2009

Public Intervenor

Greenfield gas distributor, cost of service, just and reasonable rates

Oral testimony before the New Brunswick Energy and Utilities Board, *In the Matter of the examination of the formula for Enbridge Gas New Brunswick's market-based rate*, April 23, 2009.

2009

Public Intervenor

Greenfield gas distributor, cost of service, just and reasonable rates

Pre-filed Report before the New Brunswick Energy and Utilities Board, *In the Matter of the examination of the formula for Enbridge Gas New Brunswick's market-based rate*, March 26, 2009.

2009

Public Intervenor

Cost of service, ISO management, OATT transmission policy

Oral testimony before the New Brunswick Energy and Utilities Board, *In the Matter of the application of the New Brunswick System Operator for changes to its Charges, Rates and Tolls*, March 18, 2009.

2009

Public Intervenor

Cost of service, ISO management, OATT transmission policy

Pre-filed Report before the New Brunswick Energy and Utilities Board, *In the Matter of the application of the New Brunswick System Operator for changes to its Charges, Rates and Tolls*, February 24, 2009.

2008

Allegheny Power, Baltimore Gas & Electric

Integrated resource planning, competitive retail electric markets

Oral testimony before the Maryland Public Service Commission, *in the Matter of the Commission's Investigation Of Investor-Owned Electric Companies' Standard Offer Service for Residential and Small Commercial Customers in Maryland*, Case No. 9117, December 15, 2008.

2008

Allegheny Power, Baltimore Gas & Electric

Integrated resource planning, competitive retail electric markets

Pre-filed Report before the Maryland Public Service Commission, *in the Matter of the Commission's Investigation Of Investor-Owned Electric Companies' Standard Offer Service for Residential and Small Commercial Customers in Maryland*, Case No. 9117, October 1, 2008.

2008

Public Intervenor

Ratemaking for greenfield gas distributor

Oral testimony before the New Brunswick Energy and Utilities Board, *In the Matter of an application by Enbridge Gas New Brunswick for changes to its Charges, Rates and Tolls*, March 27, 2008.

2008

Public Intervenor

Ratemaking for greenfield gas distributor

Pre-filed Report before the New Brunswick Energy and Utilities Board, *In the Matter of an application by Enbridge Gas New Brunswick for changes to its Charges, Rates and Tolls*, March 10, 2008.

2007

Public Intervenor

Prudence, just and reasonable standard, affiliate transactions

Oral testimony before the New Brunswick Energy and Utilities Board, *In the Matter of an application by the NBP Distribution & Customer Service Corporation (Disco) for changes to its Charges, Rates and Tolls*, December 18, 2007.

2007

Public Intervenor

Nuclear power plant Cost of Service

Pre-filed Report before the New Brunswick Board of Commissioners of Public Utilities, *In the Matter of an application by the NBP Distribution & Customer Service Corporation (Disco) for changes to its Charges, Rates and Tolls*, December 7, 2007.

2007

Public Intervenor

Prudence of power generation costs

Pre-filed Report before the New Brunswick Board of Commissioners of Public Utilities, *In the Matter of an application by the NBP Distribution & Customer Service Corporation (Disco) for changes to its Charges, Rates and Tolls*, November 5, 2007.

2007

Public Intervenor

Prudence of power generation costs

Oral testimony before the New Brunswick Energy and Utilities Board, *In the Matter of an application by the NBP Distribution & Customer Service Corporation (Disco) for changes to its Charges, Rates and Tolls*, June 21, 2007.

2007

Public Intervenor

Prudence of power generation costs

Pre-filed Report before the New Brunswick Energy and Utilities Board, *In the Matter of an application by the NBP Distribution & Customer Service Corporation (Disco) for changes to its Charges, Rates and Tolls*, June 14, 2007.

- 2006** **Brookfield Energy Marketing Inc.**
Valuation of power purchase agreement and power plant
Deposition testimony before the United States Bankruptcy Court for the District of Maryland, on behalf of Brookfield Energy Marketing Inc., *In re: USGen New England, Inc.*, Debtor, Case No. 03-30465, May 22, 2006.
- 2006** **Brookfield Energy Marketing Inc.**
Valuation of power purchase agreement and power plant
Rebuttal Report before the United States Bankruptcy Court for the District of Maryland, on behalf of Brookfield Energy Marketing Inc., *In re: USGen New England, Inc.*, Debtor, Case No. 03-30465, May 5, 2006.
- 2006** **Brookfield Energy Marketing Inc.**
Valuation of power purchase agreement and power plant
Expert Report before the United States Bankruptcy Court for the District of Maryland, on behalf of Brookfield Energy Marketing Inc., *In re: USGen New England, Inc.*, Debtor, Case No. 03-30465, March 29, 2006.
- 2006** **Public Intervenor**
Application of the prudence standard to affiliate transactions
Oral testimony before the New Brunswick Board of Commissioners of Public Utilities, *In the Matter of an application by the NBP Distribution & Customer Service Corporation (Disco) for changes to its Charges, Rates and Tolls*, March 14, 2006.
- 2006** **Public Intervenor**
Application of the prudence standard to affiliate transactions
Pre-filed Report with Eugene Meehan before the New Brunswick Board of Commissioners of Public Utilities, *In the Matter of an application by the NBP Distribution & Customer Service Corporation (Disco) for changes to its Charges, Rates and Tolls*, January 31, 2006.
- 2005** **Dayton Power & Light Company**
Retail pricing for default service customers and option valuation
Oral testimony at hearings in Ohio Public Utilities Commission Case No. 05-276-EL-AIR, November 8 and 14 2005.
- 2005** **Dayton Power & Light Company**
Retail pricing for default service customers and option valuation
Deposition testimony in Ohio Public Utilities Commission Case No. 05-276-EL-AIR, November 8, 2005.
- 2005** **Dayton Power & Light Company**
Retail pricing for default service customers and option valuation

Testimony in Ohio Public Utilities Commission, in Support of Stipulation filed in support of Dayton's proposed settlement Case No. 05-276-EL-AIR, November 4, 2005.

2005

Dayton Power & Light Company

Retail pricing for default service customers and option valuation

Rebuttal testimony in Ohio Public Utilities Commission, application of financial options pricing techniques to assess the reasonableness of Dayton's proposed provider-of-last-resort charges, Case No. 05-276-EL-AIR, October 31, 2005.

2004

Board of Public Utilities

Cost of capital

Pre-filed testimony with Cindy Ma before the Board of Public Utilities, Newfoundland and Labrador, Canada, on "The Cost of Capital for Automobile Insurance Firms," October 13, 2004.

CONSULTING EXPERT EXPERIENCE

- 2014 -Present** **Confidential Client**
Offshore Exploration and Production Permit Arbitration
Advised on dispute related to an agreement between two firms to develop an offshore gas field in New Zealand in arbitration at the ICC International Court of Arbitration.
- 2013–Present** **Gaz Métro**
Cost Recovery of Gas Distribution System Upgrade
Advised client on regulatory merits of ratemaking for distribution system upgrade. Performed survey of ratemaking policies for similar upgrades in other jurisdictions in connection with proceeding before Provincial regulator.
- 2014-Present** **Confidential Client**
Gas Supply Agreement Negotiation
Advise on cost of service and LNG contract price issues in Australia.
- 2014- Present** **Alliance Pipeline**
Restructuring of services and tolls
Advised on Alliance’s restructuring proposal in a matter before the National Energy Board. Supervised modelling of pipeline tolls and assessment of natural gas pipeline market power.
- 2014-2015** **Baker Botts/Gazprom OAO**
Civil dispute involving gas field development and LNG importation
Supervised modelling of LNG netback prices and damage calculations in preparation for a jury trial before a Tarrant County, Texas District Court. Consulted with respect to a dispute between a U.S oil company and Russian oil company regarding ownership of a Russian gas field, tortious interference, and trade secret misappropriation with regards to a plan to import LNG into the United States in the mid-2000s.
- 2014** **FortisBC Energy Inc**
Tolling for pipeline in Canada
Analyzed toll methodology and advised on regulatory issues related to a tolling proposal of NGTL’s North Montney Mainline, an extension of the existing NGTL Alberta System.
- 2014** **Lamson Dugan & Murray/Royal Bank of Canada**
Gas Supply Agreement Dispute
Served as consulting expert in a gas supply agreement dispute between RBC and three municipal gas distributors in Nevada and Iowa. Case

involved analysis of Basel III regulations, capital requirements, commodity swaps and interest rate swaps.

- 2013** **Confidential client**
Valuation and pricing analysis
Performed valuation and pricing analysis for pipeline dispute in Texas. Provided advice to outside counsel throughout litigation.
- 2012-2014** **ATCO Gas & ATCO Electric**
Cost of Service / Capital Trackers
Provided expert review of ATCO Gas and ATCO Electric's capital tracker proposals, including a survey of capital trackers in other jurisdictions.
- 2012-2013** **Confidential client**
Valuation of oil pipeline company and its hedging positions
Performed valuation of oil pipeline company and its hedging positions in litigation involving an alleged breach of fiduciary duty. Provided advice to outside counsel throughout litigation.
- 2012-2013** **Confidential client**
Approaches to regulatory accounting and cost-of-service regulation
Contributed to study assessing benefits of various approaches to regulatory accounting and cost-of-service regulation.
- 2011-2013** **Confidential client**
Possible outcomes of power contract disputes
Analyzed potential litigation and settlement outcomes in a series of power contract disputes. Provided advise to outside counsel.
- 2011-2012** **Confidential client**
Oil pipeline cost of service and depreciation policies
Assisted counsel to a shipper in an intrastate oil pipeline company rate case before the Kansas Corporation Commission.
- 2011** **Confidential client**
Antitrust aspects of a proposed pipeline merger
Analyzed antitrust aspects of a proposed pipeline merger, including assessment of potential market power concerns in gathering systems. Provided advise to outside counsel.
- 2010-2011** **Confidential client**
Valuation of generation assets
Performed valuation of power plant in context of alleged expropriation.

- 2010** **Hydro Québec, Canada**
Grid connection and upgrade cost policy
Analyzed grid connection and upgrade cost policy. Evaluated existing policy to allocate costs of grid upgrades to generation developers and system users. Suggested modifications to policy. Prepared benchmarking analysis comparing the company's practices to those of over a dozen other entities in North America.
- 2008** **Confidential client**
Allegations of energy market manipulation
Advised on the evaluation of allegations of energy market manipulation in the context of physical electricity trades in RTO-managed markets.
- 2007** **Confidential client**
Valuation of valuation of long-dated oil warrants
Performed valuation of long-dated oil warrants priced off Venezuelan crude oil in context of damages calculation.
- 2006** **Confidential client**
Damages valuation in securities class action
Valued damages in a securities class action related to the bankruptcy of an energy retailer.
- 2003-2004** **Confidential client**
Bid process advantages: generation pricing and transmission costs
Contributed to testimony on behalf of a large electric utility regarding an affiliate transaction that resulted from a competitive solicitation. Testimony before FERC focused on whether the affiliate was advantaged during the bid process, both with respect to generation pricing and electric transmission cost.
- 2003** **Confidential client**
Valuation, economic, accounting, and hedging analysis
Performed valuation, economic, accounting, and hedging analysis of a gas-fired power plant in an international arbitration matter.
- 2002** **Confidential client**
Prudence of forward power purchases
Contributed to testimony on behalf of an electric utility regarding the prudence of forward power purchases during the Western power crisis.
- 2002–2003** **Pacific Gas & Electric**
Valuation of Damages Due to Gas Pipeline Capacity Withholding
Performed analyses of damages from withheld pipeline capacity into California. Analyses led to \$1 billion settlement.

- 2002–2003** **Confidential client**
Prudence of forward power purchases
Contributed to testimony regarding the prudence of Department of Water Resources’s forward power purchases during the Western power crisis.
- 2002** **Confidential client**
Electric and gas hedging strategies for its generation assets
Contributed to testimony on behalf of an energy marketing and trading firm regarding electric and gas hedging strategies for its generation assets, including an examination of the nature of competition among energy marketing and trading firms and strategies.
- 2001–2002** **Pacific Gas & Electric Company**
FERC refund and other related proceedings
Analysis and support to a California utility in the context of the FERC refund and other related proceedings, 2001-2002.
- 2001–2002** **Pacific Gas & Electric Company**
Value of a long-term affiliate power sales agreement
Contributed to testimony before FERC relating to the value of a long-term affiliate power sales agreement. Involved analysis and valuation of over 100 long-term power contracts in the context of this benchmarking analysis.
- 2001** **Confidential client**
Valuation of a passive equity interest
Contributed to testimony on behalf of a leading US energy company regarding the valuation of a passive equity interest in an IPP project in El Salvador.
- 2001** **Baltimore Gas & Electric Company**
Business separation of Constellation Energy Group
Contributed to testimony submitted to the Public Service Commission of Maryland on the business separation of Constellation Energy Group.
- 1998** **Baltimore Gas & Electric Company**
Valuation of generation assets
Performed valuation of Baltimore Gas & Electric Company’s generation assets in the context of stranded cost calculations during restructuring, 1998.
- 1995–1996** **Confidential client**
Analysis of market concentration

Performed HHI analyses to support testimony presenting a competitive assessment of the Western electric generation market in the US, 1995-1996.

1994–1995

Confidential client

Damages valuation in securities class action

Estimated losses and alleged damages for several mutual funds that invested in derivative securities.

1994–1995

Confidential client

Damages valuation in securities class action

Estimated losses and alleged damages for several mutual funds that invested in derivative securities.

1994

Goldman Sachs

Default risk studies on fixed income instruments

Prepared default risk studies on fixed income instruments for counsel to Goldman Sachs in a broker/dealer arbitration.

1994

Confidential client

Damages valuation in securities class action

Consulted to counsel for an infomercial company on materiality, liability, and damages in a shareholder class action suit.

1993

Confidential client

Damages valuation in securities class action

Assessed materiality and damages in a 10b-5 class action against a major pharmaceutical company.

ADVISORY PROJECTS

- 2014** **Hawaiian Electric Company**
Fuel Adjustment Clause
Retained by Hawaiian Electric Company to provide analysis regarding the efficiency incentives embedded in the company's fuel adjustment clause (ECAC).
- 2014** **Confidential Client**
Pricing Principles for Domestic Gas Reservation Policy
Formulated a methodology to determine a schedule of reasonable prices using a cost of service approach for gas that the company is obligated to market under the domestic gas supply policy.
- 2013** **Energy trading entity**
Price risks and electricity transmission development
Retained by energy trading entity to perform an independent study of price risks and electricity transmission development in the ERCOT market.
- 2013** **Electric industry client**
Reactive power compensation
Retained by electric industry client to analyze electricity transmission tariffs and reactive power compensation in competitive electric markets.
- 2012** **Oil industry client**
Regulation benchmarking in downstream oil sector
Retained by oil industry client to advise on margins and to perform an international benchmarking of the regulation of the downstream oil sector.
- 2012** **Hawaiian Electric Company**
Hedging and rate stabilization
Retained by Hawaiian Electric Company to provide analysis regarding hedging of fuel oil and diesel fuel purchases in order to stabilize customer rates.
- 2011** **Confidential client**
Implications of CFTC proposed definition of swap dealer
Advised on margin, capital and reporting implications of CFTC proposed definition of swap dealer under Dodd Frank.
- 2010** **Confidential client**
Leveraged lease transaction
Provided litigation support services with respect to a dispute over a leveraged lease transaction.

- 2010** **Confidential client**
Valuation, risk assessment and analysis of offtake contract options
Performed detailed valuation, risk assessment and analysis of offtake contract options for a hydroelectric power plant.
- 2009** **Potomac Edison Company**
Capital investment planning
Performed least-cost capital investment planning on behalf of the Potomac Edison Company.
- 2009** **Government of New Brunswick, Canada**
Advised on inputs into asset valuation
Advised on inputs into the valuation of NB Power's generation fleet, including the Point Lepreau Nuclear Generation Station in connection with the potential sale of NB Power to Hydro Québec. Coordinated assumptions with financial advisor for fairness opinion.
- 2009** **Energy East**
Cost of capital
Advised on rate-of-return issues for electricity distributors in New York State.
- 2008** **Confidential client**
Contract design
Advised on design of structured contract for new wind power plant, new electricity transmission lines and associated RFPs.
- 2008** **Commission for Energy Regulation**
Review of SOLR tariffs
Advise the Commission for Energy Regulation on the review of SOLR tariffs in the Republic of Ireland.
- 2008** **Comisión Nacional de Energía**
Market mechanisms for distributions to serve default customers
Advised on design and implementation of market mechanisms by which Spanish distribution utilities buy energy to serve default customers.
- 2006–2009** **Hawaiian Electric Company**
Hedging options for fuel
Performed economic and accounting analysis of hedging options for low sulfur fuel oil, diesel and fuel oil on behalf of Hawaiian Electric Company.
- 2004–2010** **Commonwealth Edison and Ameren's Illinois utilities**
Competitive procurement for power supply

Advised Commonwealth Edison and Ameren's Illinois utilities on the design of a competitive procurement for short- and long-term power supply, including the contractual framework for energy purchases, 2004 to 2010.

2004–Present

New Jersey and Maryland distribution utilities

Mark-to-market issues and credit policies

Advised several utilities in the Eastern Interconnection on mark-to-market issues and credit policies.

1999–2008

New Jersey distribution utilities

Contract design and implementation

Worked with credit representatives of New Jersey distribution utilities on contract design and implementation of the contract credit terms.

Coordinated the utilities' responses to changes to the forms of letters of credit proposed by bidders; oversaw bidder credit qualification process; managed approval process for alternate guaranty instruments, and served as advisor to utilities when contract interpretation issues arose, 1999 to 2008.

1999–2008

FirstEnergy Companies

Competitive procurement for power supply

Advised the FirstEnergy Companies on the design of a competitive procurement for intermediate term power supply, including the contractual framework for energy purchases, 2004-2005.

2003

Commission for Energy Regulation

Hedging agreement and a power plant construction agreement

Advised the Commission for Energy Regulation in Ireland on the structure of a long-term hedging agreement and a power plant construction agreement; assisted with the development of the hedging contract and the tender documentation; performed bid evaluation.

2002

Sierra Pacific Resources

Risk management strategies

Advised a major west coast utility in the US on the development of its risk management policy and procedures; reviewed past trading and risk management strategies; and performed an assessment of its risk measurement and reporting techniques, including credit risk management policy.

2000

Ministry of Energy, México

Mexican IPP solicitation program

Advised on the development of the Mexican IPP solicitation program, including transaction structure (IPP v. BLT v. BOT), credit risk management, model contracts, and bid evaluation (the Comisión Federal

de Electricidad has procured as much as 2000 MW per year of long-term power supply from IPPs).

- 2000** **Comisión Federal de Electricidad, Mexico**
Credit and collateral requirements for a power purchase agreement
Advised the Comisión Federal de Electricidad in Mexico on credit and collateral requirements for an-asset backed power purchase agreement with an IPP based in Mexico, including advice on the development of comparable credit and collateral requirements for an import transaction that was to be made on a firm basis with liquidated damages.
- 1998–2000** **Ministry of Energy, Mexico**
Restructuring and privatization of the Mexican electricity sector
Consulted to the Mexican Ministry of Energy on the restructuring and privatization of the Mexican electricity sector, the design of a competitive spot market, and the policy of IPP solicitations, electricity transmission pricing, upstream gas pricing and the development of a regulatory framework for the sector.
- 1998–1999** **Ministry of Energy, Mexico**
Assessing competition in restructured Mexican electric generation
Contributed to study assessing competition in restructured electric generation market in Mexico.
- 1999** **Swiss Re**
Novel insurance packages to hedge electric price and operations risk
Assisted Swiss Re in the development of the modeling for the creation of novel insurance packages to hedge electric price and operations risk, 1999.
- 1998** **Iberdrola S.A., Spain**
Seminars on the deregulated markets for gas and electricity in the US
Designed and conducted a series of three training courses for representatives of Iberdrola S.A. (Spain’s principal private utility), which consisted of seminars on the deregulated markets for gas and electricity in the US, followed by a series of interviews with large utilities, IPPs, and energy marketers. Courses were designed to provide the European traders with an understanding of best practices employed by energy traders in the US, with respect to risk management (credit, market, and operational), 1998.
- 1998** **C.E.L.P.E, Brazil**
Risk management and energy trading
Assisted in training senior management of Iberdrola’s Brazilian subsidiary C.E.L.P.E. in the area of risk management and energy trading.

- 1998–2000** **Baltimore Gas & Electric Company**
Sector restructuring
Consultant to Baltimore Gas & Electric Company on sector restructuring.
- 1998–1999** **Baltimore Gas & Electric Company**
Market value estimates of generation fleet
Assisted in developing market value estimates of Baltimore Gas & Electric Company’s generation fleet, including Calvert Cliffs Nuclear Power Plant,.
- 1998** **Confidential Client**
Generation and fuel strategy
Participated in the development of a generation and fuel strategy for a large merchant generator and energy trader.
- 1996** **Iberdrola, S.A, Spain**
Restructuring of the electricity sector
Consultant to Iberdrola, S.A. on issues relating to the restructuring of the electricity sector in Spain.
- 1996** **Confidential client**
Investment strategy
Consultant to a major southeastern electric utility on investment strategy in the US.
- 1996** **Confidential client**
Competitive analysis of electric generation
Performed competitive analysis of electric generation market for utilities in eastern US.
- 1996** **New York State Electric and Gas Company**
Restructuring of the electricity market in New York State
Consultant to the New York State Electric and Gas Company on issues relating to the restructuring of the electricity market in New York State.
- 1995–1996** **New York Power Authority**
Sector restructuring
Consultant to senior management of the New York Power Authority on issues relating to the New York Competitive Opportunities Docket.
- 1995** **Southern California Edison Company**
Proposed restructuring of California’s electric services industry
Consultant to Southern California Edison Company on issues relating to the California Public Utilities Commission’s Proposed Policies Governing

Restructuring California's Electric Services Industry and Reforming Regulation.

Publications and Presentations

- 2015** **Law Seminars International, Energy in the Northeast**
Energy Sector Developments and the Cost of Capital
Boston, September 29, 2015
- 2015** **Law Seminars International, Rate Case Conference**
A Brave New World for Return on Equity
Las Vegas, March 5, 2014
- 2014** **Law Seminars International, Rate Case Conference**
Current Challenges in Determining Appropriate Rates of Return for Public
Utilities
Las Vegas, February 28, 2014
- 2014** **National Energy Agency (China) and representatives of the State Grid**
Regulatory Accounting and the FERC Uniform System of Accounts
Beijing, January 16, 2014
- 2012** **Agencia Nacional de Petroleo, Gas Natural e Combustiveis (Brazil)**
Natural Gas Regulation in the United States (training course)
Rio de Janiero, September 18-19, 2012
- 2012** **Center for Research in Regulated Industries Eastern Conference**
Optimal Capital Structures for Regulated Public Utilities: When Does an
Imputed Debt Ratio Make Sense for Ratemaking Purposes?
Eastern Conference, Delaware May 18, 2012
- 2012** **Energy Policy Briefing Note**
The Real Costs of Eliminating Unsecured Credit Lines and Requiring
Cash Collateral in OTC Swaps Markets
Co-author: Sharon Brown-Hruska, March 13, 2012
- 2012** **Law Seminars International, Electric Utility Rate Case Conference**
Marginal Cost Pricing for Rate Design
Las Vagas, February 2, 2012.
- 2012** **Center for Research in Regulated Industries**
Advanced Workshop in Regulation and Competition
Gas Pipeline Overearning Investigations
Newark, New Jersey, January 13, 2012.

- 2011** **Working Group of Commercial Energy Firms**
Cost-Benefit Analysis of the CFTC's Proposed Swap Dealer Definition
December 20, 2011.
- 2011** **Law Seminars International, Renewable Energy in the Pacific Northwest**
Abundant Low-Cost Natural Gas? A Driver of Market Activity
August 4, 2011.
- 2011** **Public Utilities Fortnightly**
Zone of Reasonableness: Coping with Rising Profitability a Decade after Restructuring
July 2011.
- 2011** **Law Seminars International, Electric Utility Rate Case Conference**
Rate Design Issues Among Customer Classes
Las Vegas, February 10, 2011.
- 2011** **Advanced Workshop in Regulation and Competition, Center for Research in Regulated Industries**
Decoupling and the Cost of Equity
Newark, New Jersey, January 14, 2011.
- 2010** **New York State Bar Association, Business Law Section Committee on Public Utility Law**
Getting Renewables to Market: The Importance of Transmission Ratemaking Policy
New York, July 24, 2010.
- 2009** **Law Seminars International Conference, Renewable Energy in New England**
Getting Renewable Power to Market
Boston, June 25, 2009.
- 2008** **Report for Baltimore Gas & Electric and Allegheny Power**
Evaluation of Longer-Term Procurement Plans
October 1, 2008.
- 2008** **Electricity Journal**
The Continuing Rationale for Full and Timely Recovery of Fuel Price Levels in Fuel Adjustment Clauses
July 2008.

- 2008** **Energy in the Southwest Conference**
Natural Gas as a Fuel: Will There Be Enough? At What Prices?
July 22, 2008.
- 2007** **NERA Economic Consulting**
The Line in the Sand: The Shifting Boundary Between Markets and
Regulation in Network Industries.
Coauthor.
- 2007** **Electric Utility and Natural Gas Interdependency**
Managing Risk in Interdependent Gas and Power Markets
Houston, March 6, 2007.
- 2004** **Electricity Journal**
FERC Imposes New Constraints on Utility Procurement
October 2004.
- 2003** **Northeast Gas Storage and Supply Strategies**
Can Your Capital Structure Handle Today's Market, Credit and Liquidity
Risks?
Boston, June 17, 2003.
- 1996** **World Bank**
Regulatory and institutional reforms in the Chinese power sector
Contributor, 1996.
- 1993** **World Development**
Political Economy, Convergence and Growth in Less Developed Countries
Contributor, 1996.