

La Capra Associates, Inc.
One Washington Mall, 9th Floor
Boston, Massachusetts 02108
Telephone: 617.778.5515
Website: www.lacpra.com



PROPOSAL

for Consulting Services

TO ANALYZE THE ADVANCE DETERMINATION OF
PRUDENCE APPLICATION SUBMITTED BY
MONTANA-DAKOTA UTILITIES COMPANY AND
OTTER TAIL POWER COMPANY

RFP NUMBER 408.06.11.003 ■ ISSUED JUNE 30, 2011

Prepared for:

The North Dakota Public Service Commission

August 1, 2011

TABLE OF CONTENTS

STATEMENT OF AUTHORIZATION	1
I. INTRODUCTION	2
II. UNDERSTANDING OF THE PROJECT	3
III. METHODOLOGY USED FOR THE PROJECT.....	5
A. SCOPE OF WORK.....	6
IV. EXPERIENCE AND QUALIFICATIONS.....	8
A. PERSONNEL	8
B. EQUAL EMPLOYMENT OPPORTUNITY POLICY	12
C. SUBCONTRACTORS.....	12
D. QUALIFICATIONS.....	12
V. REFERENCES.....	18
VI. COST PROPOSAL	19
VII. REQUIRED ENCLOSURES	20

Attachments

Appendix A: Resumes of Personnel

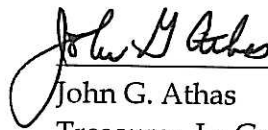
Appendix B: Confidential Billing Rates

Appendix C: Electronic Copy of the Proposal – attached CD *(submitted with Original proposal)*

Statement of Authorization

John G. Athas, as Treasurer of La Capra Associates, Inc., is authorized to negotiate and contractually bind the firm for services to the North Dakota Public Service Commission. Mr. Athas also has the requisite corporate authority to prepare and deliver this proposal, and to deliver and perform the contract contemplated in the RFP on behalf of La Capra Associates.

Signed:



John G. Athas
Treasurer, La Capra Associates, Inc.
July 26, 2011

Alternate Authorized Representative

Daniel E. Peaco, President of La Capra Associates, Inc., is also authorized to negotiate and contractually bind the firm for services to the North Dakota Public Service Commission.

Contact Information

Daniel Peaco, President
La Capra Associates, Inc.
One Washington Mall
Boston, MA 02108
Tel: (617) 778-5515
Fax: (617) 778-5528
E-mail: dpeaco@lacapra.com

John G. Athas, Treasurer
La Capra Associates, Inc.
One Washington Mall
Boston, MA 02108
Tel: (617) 778-5515
Fax: (617) 778-5528
E-mail: jathas@lacapra.com

I. INTRODUCTION

On June 30, 2011, the North Dakota Public Service Commission's (the "Commission's") Division of Economic Regulation (the "Division") issued Request For Proposal 408.06.11.003 (the "RFP") seeking consultant services in connection of the Application of Otter Tail Power Company ("OTP") and Montana Dakota Utilities "MDU") for an Advance Determination of Prudence for the proposed Big Stone Air Quality Control System ("AQCS") Project.

La Capra Associates, Inc. ("La Capra Associates") is pleased to provide this proposal in response to the Division's RFP. La Capra Associates is a Boston-based, employee-owned consulting firm that has successfully advised clients on similar, related matters over the last 31 years. The following person will serve as the La Capra Associates' **primary contact** for the Commission and the Division in all aspects of this project except for the required corporate authorization provided in the previous section.

Richard Hahn

Principal Consultant

La Capra Associates, Inc.
One Washington Mall, 9th Floor
Boston, Massachusetts 02108

Phone: (617) 778-2467

Fax: (617) 778-5528

E-mail: rhahn@lacapra.com

La Capra Associates confirms that it will comply with all requirements of the RFP. To the best of our knowledge, there are no conflicts of interest that relate in any way to this project and this RFP. We also want to confirm, per the RFP's requirement, that we had a telephone conversation with Mr. Josh Gallion on July 18th, in an effort to be included on the list to receive solicitation amendments.

We thank you for the opportunity to submit this proposal, and we look forward to working with the Division Staff on these important matters.

II. UNDERSTANDING OF THE PROJECT

The Big Stone Generating Plant is a 475 megawatt (MW) coal-fired power plant located near Milbank, South Dakota. The Plant became operational in 1975 and burns low sulfur sub-bituminous coal using a cyclone-fired boiler. Big Stone is jointly owned by three utilities: Otter Tail (53.9%), NorthWestern Energy (23.4 %), and Montana-Dakota (22.7 %).

According to the Application, the current emission rates for SO₂, NO_x, and PM₁₀ from Big Stone will not comply with the Best Available Retrofit Technology (“BART”) Rule as determined by the South Dakota Department of Environment and Natural Resources (“DENR”). The proposed AQCS consists of (1) a semi-dry Flue Gas Desulfurization system for SO₂ control, (2) a Selective Catalytic Reduction system for NO_x control, and (3) the replacement of the existing baghouse for the removal of particulate matter. The Application also seeks approval to install Active Carbon Injection (“ACI”) technology to control mercury emissions. The estimated cost of the AQCS plus the mercury control system is approximately \$494 million, or about \$1,040 per KW of Big Stone capacity. In addition to the capital investment associated with the AQCS, there will be increased operation and maintenance (“O&M”) costs required by this project.

On May 20, 2011, OTP and MDU filed separate Applications with the Commission for an Advance Determination of Prudence for the proposed Big Stone AQCS Project. The MDU filing has been docketed as case number PU-11-163 and the OTP filing has been docketed as case number PU-11-165. The Division is soliciting proposals for a thorough analysis of this request for an advance determination of prudence for the AQCS. The selected consulting firm will be required to provide written testimony and present effective oral testimony at the Commission’s technical hearing and assist in the preparation of pre- and post-hearing documents. According to the RFP, written testimony is due to be filed on November 4, 2011, and a technical hearing will be held on December 13, 2011. The selected consulting firm must provide a detailed analysis and conclusion related to the necessity and the economic prudence of installing the air quality control system on the existing Big Stone coal plant in comparison to other resource alternatives. Of specific interest in this case, Division staff is interested in determining the reasonableness of the air quality control system project costs, as well as the cost of other resource alternatives not chosen, the modeling inputs and sensitivity analysis, and the results as submitted by MDU and OTP.

Both OTP and MDU are transmission owning members of the Midwest Independent System Operator (“MISO”). MISO currently operates a Day 2 competitive market, and is implementing a formal capacity market. Thus, any decision of OTP or MDU to invest substantial funds in a 36-year old power plant must be considered within the resource options available throughout

MISO. The MISO regional transmission organization (“RTO”) currently has surplus generating capacity, and other MISO members may have resources available that can serve as alternatives to investing in Big Stone. The MISO RTO is also affected by new and proposed EPA rules on air emissions, cooling water systems, and ash disposal for existing coal-fired power plants. These regulations are expected to trigger significant retirements of MISO coal-fired capacity over the next five years. The interaction of the Big Stone plant with the rest of MISO’s generating fleet should be evaluated.

OTP’s seventh integrated resource plan (“IRP”) was prepared in June 2010. This filing has been docketed as case number PU-10-346. The filing of the IRP is required by law only in Minnesota. OTP states that it plans for its entire system as a single entity, however, and it provided copies of the plan to the regulatory commissions in North Dakota and South Dakota as well. In developing its IRP, OTP examined the electric generation resources available to it and selected the preferred plan based on a balance of reliability, affordability, and environmental responsibility. According to OTP, this energy plan includes additional renewable energy, progress on existing resource upgrades and projects, development of natural gas-fired turbines, and continued emphasis on conservation and demand-side management.

MDU’s 2011 IRP was submitted to the North Dakota Public Service Commission on May 12, 2011, and has been docketed as case number PU-11-158. This IRP was conducted for its integrated electric system, which is comprised of its service territories in the states of Montana, North Dakota and South Dakota. According to MDU, the purpose of the IRP was to consider all resource options reasonably available to meet the end-use customer's demand for reliable, cost-effective and environmentally responsible electricity, and provide a road map for MDU's future resources. MDU's IRP process encompasses four main areas: load forecasting, demand-side analysis, supply-side analysis and integration and risk analysis.

The decision of the Big Stone joint owners to invest in the proposed AQCS must be reviewed in the context of each owner’s IRP. Evaluation of incremental investments in jointly-owned existing generating units is challenging, in that each owner has different power supply portfolios and the value of the proposed investment will likely be different. It is at least theoretically possible that such an investment may make sense for some, but not all, of the unit’s joint owners.

III. METHODOLOGY USED FOR THE PROJECT

The RFP states that the Division seeks an independent review and critique of the Companies' analysis of the AQCS project at Big Stone within the context of each Company's most recent IRP filings. Staff is not seeking an independent resource plan model or an independent engineering study to recommend alternative environmental control equipment. Thus, while La Capra Associates has the capability to simulate the economic and environmental performance of the MISO system using the AURORAxmp® Electric Market Model, our proposal does not include such activities. Rather, our proposed methodology is to utilize the discovery process to obtain a detailed understanding the each Applicant's filing and the underlying assumptions, inputs and analyses.

The issues in this proceeding are likely to fall into two generic categories: Environmental Compliance and Economic Impact, as summarized below.

Environmental Compliance issues

- Is the technology choice and estimated cost for the AQCS reasonable?
- What other compliance options do the Companies have (including, but not limited to, retirement of one or more other units)?
- What are the estimated carbon emissions over the remaining life of Big Stone?
- What assumptions do the Applicants make regarding future regulation of carbon emissions? Are these assumptions reasonable and are they appropriately represented in the Applicants analysis?
- What assumptions do the Applicants make regarding expected EPA rules affecting coal-fired power plants, including tighter standards for hazardous air pollutants, ozone emissions, cooling water intake structures, and disposal of coal combustion residuals? Have the Applicants appropriately considered likely EPA rules as they pertain to coal-fired power plants in their respective resource plans and in the analysis of the cost effectiveness of the AQCS?

Economic Impact issues

- How will installing the AQCS affect the efficiency (i.e., heat rate) and availability of Big Stone? Have these impacts been properly considered in the Applicants' analysis?

- What capital investments and incremental O&M costs are needed to keep this unit running for its projected lifetime other than the proposed AQCS? Have these additional capital and O&M costs been factored into the decision?
- What is the assumed cost of emission allowances?
- How does the AQCS proposal fit into the Companies' carbon reduction plans, if any?
- Review each utility's resource supply plan to determine if Big Stone's capacity is needed to satisfy each utility's supply requirements. As part of this analysis, we will consider:
 - How does the cost of the proposed AQCS compare to the cost of purchased power or other new and / or existing resources?
 - Could existing capacity elsewhere in MISO be used more effectively to reduce the need for the plant?
 - Are there existing plants in either or both of the Companies' systems that could be converted from a Combustion Turbine to a Combined Cycle to increase efficiency as well as to be able to provide for baseload capability?
 - If retiring a different unit in either OTP's or MDU's fleet would satisfy the BART requirement to reduce emissions (as opposed to installing the AQCS), how would such retirement compare to the proposed project on an economic basis?
 - What should the criteria be for retiring older coal plants, and how does Big Stone fit those criteria?

If selected, La Capra Associates will collaborate closely with the Division to refine and focus the list of issues to be addressed in our filed testimony.

A. Scope of Work

La Capra Associates proposes to perform activities necessary to address the Environmental and Economic issues described above. Our approach will be to conduct discovery on the Companies' filing, review and assess power market simulation models inputs and outputs utilized by OTP and MDU, and evaluate the financial model deployed in analyzing the future costs of the proposed investments. Over the planning horizon, we will review the load forecast for reasonableness, assessing the underlying economic assumptions. We will briefly assess the amount of energy efficiency and demand response assumed by the Companies or inherently included in the Companies' load forecast. We will also review the assumptions about the future supply of generating capacity and any new generating units included in the analyses.

Projections of the O&M costs for the Companies’ units will be reviewed, including the Big Stone unit with and without the proposed AQCS. It is also important to review and evaluate all of the alternatives considered by the Companies that could replace the capacity of Big Stone if it were to be retired, rather than make the proposed investment in the AQCS. To the extent that we believe there are attractive alternatives that the Companies did not evaluate, we will request that the Companies perform such analyses. In addition, we will review the Companies’ financial models and underlying calculations to determine their reasonableness.

Finally, we will assess the conclusions and recommendations of the Companies, the underlying basis for them, and offer our own conclusions and recommendations as appropriate. A detailed work plan is provided in the Cost Proposal section.

We propose to perform the following tasks, in a schedule designed to comport with the hearing and decision schedule that has been or will be set by the Commission:

Table 1: Project Tasks

NO.	TASK DESCRIPTION
1	Review Companies' application & testimony; develop discovery questions and review responses
2	Review latest IRP filings for each Company; evaluate reasonableness of key IRP assumptions (i.e., load forecast, fuel prices, etc.)
3	Assess the Applicants' resource options/alternatives
4	Evaluate reasonableness of AQCS capital and O&M cost estimates
5	Assess modeling/simulation methodology used by Applicants
6	Prepare direct testimony summarizing results of review
7	Participate in the discovery process on direct testimony
8	Prepare rebuttal testimony; participate in the discovery process
9	Prepare surrebuttal testimony; participate in the discovery process
10	Assist with Development of Cross-Examination for Other Witnesses
11	Appear at Hearing; Deliver Testimony
12	Assist with Post-Hearing Documents (i.e., Briefs, Summaries. etc.)

IV. EXPERIENCE AND QUALIFICATIONS

Daniel Peaco, John Athas, and Richard Hahn are our lead personnel offered in this proposal. Each has substantial, in-depth experience with Integrated Resource Planning, investments in existing and new generation and transmission assets, asset valuations, competitive energy and capacity markets, and energy efficiency. The La Capra Associates project team will be staffed by employees with the requisite knowledge, skills, and abilities needed for this scope of work. In the following section, we provide brief biographies of each member of the project team, and describe the expected role for each as requested by the RFP. Detailed resumes are also provided as an appendix to this proposal.

A. Personnel

PROJECT TEAM	
	Key Personnel
	Dan Peaco, President ♦ Richard Hahn, Principal Consultant, <i>Project Manager</i> ♦ John Athas, Principal Consultant ♦ Alvaro Pereira, Ph.D., Managing Consultant ♦ Art Freitas, Senior Consultant ♦ Carrie Gilbert, Consultant ♦ Zachary Mayer, Analyst ♦ Dan Koehler, Analyst

■ DANIEL E. PEACO, *PRESIDENT AND PRINCIPAL CONSULTANT*

Daniel Peaco is an electric industry planning specialist with more than 28 years of experience in power markets and marketing, strategic planning, pricing and price forecasting, power procurement and contracts, and power systems planning. Mr. Peaco has significant experience as an expert witness and as an advisor to senior utility managers and public policy officials. His consulting practice has included a range of engagements relating to competitive electric markets and industry restructuring, including generation asset valuation, strategic planning, competitive market formation and pricing, stranded cost assessment and mitigation, power market analysis of prices and supply requirements, power contract analysis, and power procurement practices. His work also includes integrated resource planning and related projects in regulated markets. In addition to his tenure at La Capra Associates, he has held management and planning positions in power supply planning at Central Maine Power, CMP International Consultants, Pacific Gas & Electric, and the Massachusetts Energy Facilities Siting Council. Mr. Peaco has an M.S. in Engineering Sciences, Resource Systems and Policy Design Thayer School of Engineering, Dartmouth College, and a B.S. in Civil Engineering, Water Resource Systems from M.I.T.

Mr. Peaco role in this project will be to provide oversight and apply his considerable experience in integrated resource planning and energy economics to ensure that all relevant issues are addressed as part of La Capra Associates' work for the Division.

■ RICHARD S. HAHN, *PRINCIPAL CONSULTANT*

PROJECT MANAGER

Richard Hahn is a senior executive in the energy industry, with diverse experience in both regulated and unregulated companies. Mr. Hahn joined La Capra Associates in 2004. He has a proven track record managing full P&Ls, integrated resource planning, analyzing energy, capacity, and ancillary services markets, valuation of energy assets, creating operational excellence, and developing start-ups. Mr. Hahn has demonstrated expertise in electricity markets, utility planning and operations, sales and marketing, engineering, business development, and R&D. He also has extensive knowledge and experience in both the energy and telecommunications industries. Mr. Hahn has testified on numerous occasions before the Massachusetts Department of Telecommunications and Energy, and also before FERC. He has an M.B.A. from Boston College, and an M.S. in Electrical Engineering from Northeastern University.

Mr. Hahn will serve as project manager for the work, and he will be the witness for hearings in this proceeding at which a representative of La Capra Associates will appear. Mr. Hahn will supervise the day-to-day activities of La Capra Associates' staff to ensure that all tasks described above are completed in a timely, high quality manner. He is also expert in financial and economic modeling techniques, and will apply that experience to help ensure that the analysis underlying the Application is sound. Mr. Hahn has testified extensively in similar proceedings.

■ JOHN G. ATHAS, *TREASURER AND PRINCIPAL CONSULTANT*

John Athas joined La Capra Associates in 2006, bringing nearly 30 years of diverse electric industry experience. Mr. Athas has substantial, hands-on skills having worked for an electric utility, a competitive retail electric services provider, a power technology manufacturer, and an energy industry consulting firm. Through extensive practical application, he has assumed leadership roles in resource planning, analysis of competitive wholesale and retail markets, financial and risk analysis, strategic planning, and contracts and transactions. With expertise in utility regulation, energy marketing and product development, energy policy, asset valuation, mergers and acquisitions, and corporate strategy, Mr. Athas has provided clients valuable insight from his unique blend of experience in strategy consulting, technical evaluations and energy market participation. He has an M.B.A from the University of Connecticut, and an M.S. in Mechanical Engineering from Rensselaer Polytechnic Institute.

Mr. Athas will oversee La Capra Associates review of the IRPs and the underlying assumptions for key variable such as load growth, fuel prices, allowance cost, etc. Mr. Athas will also apply his considerable expertise in integrated resource planning.

■ ALVARO PEREIRA, PH.D. *MANAGING CONSULTANT*

Al Pereira is an accomplished energy professional with over 15 years of experience in economic, technical, and policy analysis. Dr. Pereira joined La Capra Associates in 2008, following nearly a decade with the Massachusetts Division of Energy Resources (DOER) as the head of a group responsible for

economic and technical analyses of policies, programs, and regulatory filings. Dr. Pereira has expertise in rate design and analysis, energy procurement, demand side management (DSM) programs, and economic impact modeling and forecasting. He has an M.S. in Transportation and a Ph.D. in Urban and Regional Economics and Studies, both from M.I.T.; and two bachelor degrees in Economics and Finance from UMass Amherst.

Dr. Pereira is an expert in competitive energy and capacity markets. His primary role in this project will be to evaluate the interaction of the Big Stone plant with MISO markets, and help ensure that the Applicants' analysis properly captures the economic impact of that interaction.

■ **ART FREITAS, *SENIOR CONSULTANT***

Art Freitas is an economist with over 10 years of experience specializing in power systems modeling, electric and natural gas rate design and cost of service, integrated resource planning, wholesale electric & natural gas supply planning and risk management, and retail energy planning and procurement. He has assisted in the preparation of numerous cost of service studies and rate designs for clients in both the natural gas and electric industry. For the past seven years he has been the primary consultant for a small Massachusetts natural gas utility during which time he has prepared all of the utility's regulatory filings including cost of service studies, PBR, cost of gas filings, resource plans. Among his duties at La Capra Associates, Mr. Freitas is the head of the Wholesale Market Analytics team, which is responsible for maintaining the firm's wholesale market model. Mr. Freitas holds an economics degree from Marquette University. Prior to joining La Capra Associates, Mr. Freitas worked on regulatory affairs for Boston Gas Company.

Mr. Freitas' role in this project will be to act as an integrated resource planning and power markets expert.

■ **CAROLYN GILBERT, *CONSULTANT***

Carolyn Gilbert joined La Capra Associates in 2007, bringing over nine years of experience in renewable energy, environmental business strategy, and engineering consulting. She is an expert in northeast renewable activities. Ms. Gilbert's recent work includes renewable energy certificate (REC) price forecasting, renewable energy project evaluation, and renewable energy potential studies. Specifically, she was a contributing author to the renewable energy technical paper for the Connecticut integrated resources plan; has analyzed the renewable energy potential for New England and for a southern state; and has modeled REC prices for Midwestern, New England and New York clients. Ms. Gilbert has conducted economic analyses of offshore and onshore wind farms, a landfill gas facilities and a large scale solar PV project. She has also provided guidance to NYSERDA on the cost of the customer sited renewable energy program and evaluated the financial impact of solar photovoltaic (PV) installation for commercial customers.

Prior to joining the firm, Ms. Gilbert's strategy consulting experience included work for US and European wind turbine manufacturers including a US market sizing analysis and market entry study and transportation logistical analysis for two different manufacturers. She also assessed environmental market opportunities for a Fortune 500 company. As an environmental engineer at Camp Dresser and McKee, Ms. Gilbert conducted planning and design work for municipal water and wastewater systems. This work included wastewater treatment plant facilities plans and water distribution system master plans. She holds a BE from the Thayer School of Engineering at Dartmouth College and an MBA from the University of Michigan.

Ms. Gilbert's role in this project will be to assess assumptions made regarding environmental rules, emission rates, allowance pricing, and the availability and cost of demand side management resource options.

■ ZACHARY MAYER, *ANALYST*

Zachary Mayer recently joined La Capra Associates, and is an integral part of the Market Analytics team responsible for maintaining and running La Capra Associates' wholesale electricity market model. He has advanced experience in statistical modeling and econometrics, including regression techniques and experimental designs specifically relevant to impact evaluation and forecasting. Prior to joining La Capra Associates, Mr. Mayer worked for the FSC Group in San Francisco where he dealt with load research data from PG&E and other western utilities. Mr. Mayer has extensive experience using load research data to evaluate the impacts of new rates on customer bills, as well as the effects of time-varying rates and demand side management programs on customer behavior. He holds a Bachelor's Degree in Ecology and Applied Math from Dartmouth College.

Mr. Mayer's role in this project will be to perform the research and analysis necessary to complete all of the tasks proposed in the above scope of work under the direction of senior La Capra Associates' personnel.

■ DAN KOEHLER, *ANALYST*

Dan Koehler joined La Capra Associates as an Analyst in the beginning of 2010. Mr. Koehler's work at La Capra Associates includes being an integral part of the Market Analytics team responsible for maintaining and running La Capra Associates' wholesale electricity market model. He also provides research and analysis support for various power markets and renewable energy projects in the firm. Mr. Koehler has a background in economics and math, and received his Master's Degree in Public Policy & Management from the University of Southern Maine.

Mr. Koehler's role in this project will be to perform the research and analysis necessary to complete all of the tasks proposed in the above scope of work under the direction of senior La Capra Associates' personnel.

B. Equal Employment Opportunity Policy

La Capra Associates, Inc. is an employee-owned company, with ownership spread across our full staff which features significant fractions of women and minorities. It has always been the policy and will continue to be the strong commitment of La Capra Associates to provide equal opportunities in employment to all qualified persons solely on the basis of job-related skills, ability and merit. It is our policy to recruit contractors and subcontractors solely on the basis of their professional qualifications and abilities. Further, La Capra Associates will not knowingly use the services of, patronize or otherwise deal with any business, contractor, subcontractor or agency that engages in acts of unlawful discrimination. This Policy Statement is based on both the spirit and the letter of state and federal anti-discrimination laws, regulations and executive orders. La Capra Associates, Inc. will continue to comply with all federal and state laws and policies which speak to Equal Employment Opportunity.

As an example of our ongoing commitment, we have hired a certified minority- and women-owned business for our financial and accounting needs.

C. Subcontractors

La Capra Associates will perform the entire scope of work using its own employees, and does not plan to utilize any subcontractors.

D. Qualifications

La Capra Associates possesses a substantial body of prior experience in the areas for which we are proposing to perform work for the State of North Dakota. Here, we offer a few of the project examples which we believe best exemplify the services that the State is seeking through this RFP.

Client:	Wisconsin Citizens Utility Board
Project:	Environmental Upgrades to Oak Creek Coal Fired Power Plant

In 2007 and 2008, the Wisconsin Citizens Utility Board and Clean Wisconsin retained La Capra Associates to provide expert advice relative to WEPCO's application for approval to invest in new environmental equipment and facilities at the Oak Creek Power Plant. (Docket No. 6630-CE-299) La Capra Associates reviewed the Company's filing, performed assessments of alternative compliance options, and filed direct and rebuttal testimony. We coordinated testimony with the environmental consultant for the WI CUB and Clean Wisconsin.

Client: Wisconsin Citizens Utility Board

Project: Environmental Upgrades to Edgewater 5 Coal Fired Power Plant

In 2009, the Wisconsin Citizens Utility Board and Clean Wisconsin retained La Capra Associates to provide expert advice relative to the application of WPL and WEPCO for approval to invest in new environmental equipment and facilities at the jointly owned Edgewater Unit 5. (Docket No. 5-CE-137) Richard Hahn presented testimony that recommended that WEPCO sell its share of the unit to WEPCO, who should then make the environmental investment and also retire an older coal-fired unit.

Client: Wisconsin Citizens Utility Board

Project: Environmental Upgrades to Columbia Coal Fired Power Plant

In 2009, the Wisconsin Citizens Utility Board and Clean Wisconsin retained La Capra Associates to provide expert advice relative to the application of WPL, WPS and MGE for approval to invest in new environmental equipment and facilities at the jointly owned Columbia Units 1 and 2. (Docket No. 5-CE-138).

Client: Wisconsin Citizens Utility Board

Project: Rothschild Biomass Plant

In 2010, the Wisconsin Citizens Utility Board retained La Capra Associates to provide expert advice relative to WEPCO's application for approval to construct a new 50MW biomass-fired cogeneration plant at the site of the Domtar paper mill in Rothschild. (Docket No. 6630-CE-305) La Capra Associates reviewed the Company's filing, performed assessments of alternative renewable energy options, analyzed the proposed allocations of capital costs and fuel costs between steam and electric customers, and filed direct and rebuttal testimony.

Client: The State of Utah – Division of Public Utilities

Project: Review of Rocky Mountain Power 2011 Plant Acquisition

In 2011, La Capra Associates was retained by the Utah Division of Public Utilities to review Rocky Mountain Power's plant acquisition request resulting from a Three-year All Source RFP process. The winning bid was a 637 MW combined cycle gas turbine power plant (CCCT) to be constructed on the site of an existing unit by

CH2M Hill E&C Inc. as an engineering, procurement, and construction (EPC) contractor. Originally Rocky Mountain Power had also placed an existing 543 MW CCCT known as the Apex Plant on its final shortlist of bids, but made no application for purchasing the asset. La Capra Associates conducted discovery and investigation on an expedited basis on issues including review of the terms in the EPC contract, the economic justification of both acquiring the new CCCT and not acquiring the Apex plant, the procurement process and its relationship to the competitive bidding rules in Utah, all modeling performed by Rocky Mountain Power in support of its application, and rate implications. La Capra Associates filed direct testimony before the Utah Public Service Commission on March 3rd (Docket No. 10-035-126). We also provided rebuttal and surrebuttal testimony.

Client:	Rhode Island Division of Public Utilities and Carriers
---------	--

Project:	Deepwater Wind Contract
----------	-------------------------

We reviewed a contract between National Grid and Deepwater Wind for an offshore wind generation facility to determine if it met the terms set by the legislature that would have required approval. The Commission has been charged by legislation with determining that such a renewable project is “commercially reasonable.” This standard has been defined in the legislation as “reasonably consistent with what an experienced power market analyst would expect to see in transactions involving newly developed renewable energy resources.”

We conducted an analysis that provides cost estimates for current renewable resources, estimated the internal rate of return that would result from the contract, compared this to comparable projects, and reviewed non-price contract terms. The Commission accepted Mr. Hahn’s estimates of comparative costs and found the Deepwater contract terms not commercially reasonable.

Client:	Green Mountain Power Company
---------	------------------------------

Project:	Integrated Resource Planning
----------	------------------------------

La Capra Associates assisted Green Mountain Power (“GMP”) in developing a 20-year IRP for mandatory submission to the Vermont Public Service Board. Our specific services to GMP included an examination of potential power portfolios to meet GMP’s needs over the next 20 years, including combinations of conventional and renewable generating units, forward energy purchase contracts, and spot market purchases. La Capra Associates used its regional electricity market simulation model to evaluate the relative performance of potential portfolios, based on a combination of scenario and sensitivity analyses. Projecting the New England ISO’s power market’s characteristics over 20 years entailed analyzing and projecting the underlying market drivers, including: electric load, generation supply, generation retirements, transmission expansions, and fuel prices. The uncertainty

surrounding critical power market variables, such as load, fuel prices and the carrying costs of new generation were appropriately characterized. We evaluated the portfolios' relative performance based on criteria including long-term costs under reference case conditions; range of potential long-term portfolio costs; susceptibility to short-term factors (e.g., spot market price increase, natural gas fluctuations); and societal costs based on estimated air emissions.

Client:	Connecticut Energy Advisory Board
---------	-----------------------------------

Project:	Connecticut Electric Resource Procurement Plan (IRP)
----------	--

La Capra Associates has provided the Connecticut Energy Advisory Board (CEAB) with advisory and technical services in support of the CEAB's first three annual Integrated Resource Plans. These three annual planning cycles have culminated in a comprehensive 2010 IRP addressing the 20 year outlook and action for energy efficiency, renewable, repowering, transmission, and emerging technologies.

Through this process, La Capra Associates has conducted reviews of three annual planning submissions prepared by the Connecticut distribution utilities, assisted with a process of public review and comment and public hearings, conducted a series of stakeholder workshops on a broad range of resource options and policy topics, conducted an extensive IRP scenario analysis, prepared the three annual CEAB IRP reports, and presented the results of these IRP activities in three annual proceedings before the Connecticut Department of Public Utility Control.

Documents and materials from this work can be found at: <http://www.ctenergy.org>

Client:	Georgia Public Service Commission Public Interest Advocacy Staff
---------	--

Project:	Review of Georgia Power Company 2010 Integrated Resource Plan
----------	---

La Capra Associates assisted the Staff with the review of the review of the Company's 2010 IRP on topics including Integrated Planning Methodology, Demand and Supply-side Integration, treatment of uncertainty in environmental rules, and evaluation of a proposed solar demonstration project. The review was presented in written and oral testimony before the Georgia Public Service Commission.

Client:	Oklahoma Office of the Attorney General
Project:	Review of the Red Rock Coal-fired Generation Pre-approval Application – 2006/2007

In 2006, La Capra Associates testified for the Oklahoma Attorney General’s office regarding the joint application of Public Service Company of Oklahoma and Oklahoma Gas & Electric Company for pre-approval and a finding of prudence with respect to the proposed 950 MW Red Rock Coal-Fired Steam Generating unit, a two billion dollar investment. In this effort La Capra Associates had the following responsibilities:

- Review and critique the Integrated Resource Planning (IRP) studies of OG&E and PSO with respect to methodology, assumptions, accuracy, thoroughness and conclusions regarding load forecasting, generation choices, transmission potential, environmental considerations and use of demand management.
- Review and critique PSO’s Request for Proposals (RFP) for generating capacity with respect to process, thoroughness, fairness and accuracy.
- Review and Critique the PSO and OG&E plan to jointly construct, operate and own the 950 MW Red Rock coal fired generation unit.
- Review and critique the Companies’ proposals for rate mechanisms that would collect for the cost of the unit as it was being built.

We presented testimony on all of these issues. The outcome of this regulatory proceeding was that the Commission voted to deny pre-approval, recommend that the utilities more directly consider demand management options and amend their IRP analyses.

In 2011, La Capra Associates assisted the AG with a review of OG&E’s 2011 IRP, including issues of coal plant compliance strategies with regional haze regulations and wind energy development analysis.

Client:	Arkansas Public Service Commission General Staff
Project:	Entergy Arkansas, Inc.’s Withdrawal from the Entergy System Agreement

La Capra Associates is actively supporting the Arkansas Public Service Commission General Staff in evaluating EAI’s plans to withdraw from the existing Entergy System Agreement, an agreement which has been subject to litigation for decades and caused Arkansas ratepayers billions of dollars from cross-subsidization. A variety of different strategic options are being analyzed, including EAI as a standalone entity, EAI joining an existing RTO such as SPP or MISO, and Entergy becoming its own RTO. We are assisting Staff as it considers many different

complex and interrelated issues at stake, including impacts to generation resource planning, changes in transmission cost allocation, enhancement to Independent Power Producer and Qualifying Facility access to serve EAI load, cost accounting, and continued litigation risk among others.

La Capra Associates has filed initial testimony in this proceeding and written two reports outlining our observations, analysis, and recommendations regarding EAI's analysis of all strategic options:

- Entergy Arkansas, Inc.'s Withdrawal from the Entergy System Agreement, Response to EAI's Analysis of All Strategic Options, Supplemental Initial Report prepared for the General Staff of the Arkansas Public Service Commission. July 12, 2011.
- Entergy Arkansas, Inc.'s Withdrawal from the Entergy System Agreement, Initial Report prepared for the General Staff of the Arkansas Public Service Commission. February 11, 2011.

In the interest of brevity, we have supplied the above examples of La Capra Associates' experience and qualifications. If the Division desires additional examples, we can provide them upon request.

V. REFERENCES

As shown in the above section, La Capra Associates has a substantial amount of experience in projects that are very similar to the scope of work sought by the Division in this proceeding. We believe that we have an extraordinary track record of delivering high quality services on time and within budget. The following references can verify our performance on projects similar to the Big Stone AQCS.

REFERENCE	CONTACT INFORMATION
<i>La Capra Associates</i>	
WISCONSIN CITIZENS UTILITY BOARD	Kira Loehr , Counsel ADDRESS: 16 N Carroll Street, Madison, WI 53703 TELEPHONE: 608-251-3322 E-MAIL: loehr@wiscub.org
UTAH DIVISION OF PUBLIC UTILITIES	William Powell , Energy Section Manager ADDRESS: Heber M. Wells Building, 160 East 300 South, 4th Floor, Salt Lake City, UT 84111 TELEPHONE: 801-530-6032 E-MAIL: wpowell@utah.gov
RHODE ISLAND DIVISION OF PUBLIC UTILITIES AND CARRIERS	Steve Scialabba , Chief Accountant ADDRESS: 89 Jefferson Blvd., Warwick, RI 02888 TELEPHONE: 401-780-2140 E-MAIL: sscialabba@ripuc.state.ri.us
GREEN MOUNTAIN POWER	Doug C. Smith , Manager of Energy Resource Planning and Rates ADDRESS: 163 Acorn Lane, Colchester, VT 05446-6611 TELEPHONE: 802-655-8462 E-MAIL: smith@greenmountainpower.biz

VI. COST PROPOSAL

Our proposed budget estimate for this proceeding is \$108,800—inclusive of \$3,000 in travel expenses. This includes two trips to North Dakota for one individual to participate in one day of the hearing and testify and another trip either before or after that hearing. La Capra Associates bills only for work performed. The detailed budget proposal, including the number of hours for each position and title for La Capra Associates Staff, is contained in Table 2 below.

This budget proposal assumes that the schedule for this project will be as described in the RFP, with testimony being filed on or about November 4, 2011 and the hearing occurring on or about December 13, 2011. This proposed budget also assumes that La Capra Associates will receive timely, unfettered access to all discovery responses in our Boston Office, including responses that may be deemed to be confidential and protected.

Work performed by La Capra Associates will be billed at the applicable hourly rate. Bills will be rendered monthly for work performed during the prior month and for appropriate direct expenses incurred, such as travel. All time spent on client work will be recorded by employees and furnished with each billing.

Hourly rates include all indirect costs, clerical, and secretarial time, none of which will be separately billed.

Confidential and Proprietary

La Capra Associates considers its billing rates and other financial information proprietary and confidential, and not for public viewing/disclosure. We ask that the Division treat this information as confidential and exempt from disclosure. La Capra Associates has used its best efforts to maintain the confidentiality of financial information and its disclosure could competitively harm our firm.

Table 2: Projected Hours at each (Confidential) Billing Rate

North Dakota Public Service Commission Application of Otter Tail Power and Montana Dakota Utilities for an Advance Determination of Prudence for the Big Stone Air Quality Control System Project Dockets 11-163 and 11-165	President	Principal Consultant	Managing Consultant	Senior Consultant	Consultant	Analyst	Total Hours	Labor Budget Estimate	Travel Expenses
CONFIDENTIAL Hourly Rates	\$275	\$250	\$225	\$190	\$165	\$120			
Review Companies' application & testimony; develop discovery questions and review responses	4	8	16	16	16	16	76	\$14,300	
Review latest IRP filings for each Company; evaluate reasonableness of key IRP assumptions (i.e., load forecast, fuel prices, etc.)	4	8	8	16	24	24	84	\$14,780	
Assessment of the Applicants' resource options / alternatives	4	8	8	8	8	8	44	\$8,700	
Evaluate reasonableness of AQCS capital and O&M cost estimates	4	8	16	8	8		44	\$9,540	
Assess modeling / simulation methodology used by Applicants		4	4	24	8	8	48	\$8,740	
Prepare direct testimony summarizing results of review	4	24	16	8	8		60	\$13,540	
Participate in the discovery process on direct testimony		8	8	8	8		32	\$6,640	
Prepare rebuttal testimony; participate in the discovery process	4	16	8	8			36	\$8,420	
Prepare surrebuttal testimony; participate in the discovery process	4	8	8	8			28	\$6,420	
Assist with Development of Cross-Examination for Other Witnesses		8	8	16	16		48	\$9,480	
Appear at Hearing; Deliver Testimony		8					8	\$2,000	\$1,500
Assist with Post-Hearing Documents (i.e., Briefs, Summaries, Etc.)		4	4	4	4		16	\$3,320	\$1,500
Total	28	112	104	124	100	56	524	\$105,880	\$3,000
Grand total including travel expenses=								\$108,880	

VII. REQUIRED ENCLOSURES

La Capra Associates has reviewed the RFP in its entirety as it prepared this proposal, and understands the requirements set forth in each section of the RFP.

Upon award of contract, we understand we will be required to become an approved vendor on the State's bidders list, and that we will need to be registered with the North Dakota Secretary of State and submit a completed Bidders List Application to the North Dakota Vendor Registry Office.

Appendix A

La Capra Associates

RESUMES OF PERSONNEL



Daniel E. Peaco

President

Daniel Peaco is an electric industry planning specialist with more than 30 years of experience in power markets and marketing, strategic planning, pricing and price forecasting, power procurement and contracts, and power systems planning. Mr. Peaco has significant experience as an expert witness and as an advisor to senior utility managers and public policy officials. His consulting practice has included a range of engagements relating to integrated resource planning, competitive electric markets and industry restructuring, including generation asset valuation, strategic planning, competitive market formation and pricing, stranded cost assessment and mitigation, power market analysis of prices and supply requirements, power contract analysis, and power procurement practices. In addition to his tenure at La Capra Associates, he has held management and planning positions in power supply planning at Central Maine Power, CMP International Consultants, Pacific Gas & Electric, and the Massachusetts Energy Facilities Siting Council.

EMPLOYMENT HISTORY

La Capra Associates	Boston, MA
<i>President</i>	2002-current
<i>Managing Director</i>	1996-2002
Central Maine Power Company	Augusta, ME
<i>Manager, Industrial Marketing and Economic Development</i>	1995-96
<i>Principal, CMP International Consultants</i>	1993-95
<i>Director, Power Supply Planning</i>	1987-93
<i>Power Supply Planning Analyst</i>	1986-87
Pacific Gas & Electric Company	San Francisco, CA
<i>Power Supply Planning Analyst</i>	1985-86
<i>Hydropower Planning Analyst</i>	1983-84
<i>Cogeneration Contracts Analyst</i>	1981-82
Massachusetts Energy Facilities Siting Council	Boston, MA
<i>Planning Engineer</i>	1978-79

EDUCATION

Thayer School of Engineering, Dartmouth College Hanover, NH	
<i>M.S. in Engineering Sciences, Resource Systems and Policy Design</i>	1981
Massachusetts Institute of Technology Cambridge, MA	
<i>B.S. in Civil Engineering, Water Resource Systems</i>	1977

PROJECT EXAMPLES

- Project manager for evaluation of strategic reorganization of Entergy Arkansas associated with its withdrawal from the Entergy System Agreement on behalf of the General Staff of the Arkansas Public Service Commission. 2010-ongoing.
- Project manager for Integrated Resource Plan and Procurement Plan services to the Connecticut Energy Advisory Board in support of that entity's responsibility to work collaboratively with the State's electric utilities to develop annual plans. 2007-2010.
- Project manager for non-transmission alternatives assessment and economic assessment of costs and benefits of for Central Maine Power's Maine Power Reliability Program. La Capra Associates studies were included in application for Maine certification and have supported review of the project at ISO-New England. 2007-2010.
- Project manager for energy resource competitive bidding and state energy planning services to the Connecticut Energy Advisory Board in support of that entity's mission to foster development of preferred energy resources in the State, including the preparation of electric sector needs assessments for the State, evaluation of ISO-New England reliability and transmission planning studies, and the design of request for proposal procedures. 2005- 2009.
- Presented expert testimony on behalf of the Oklahoma Attorney General regarding the integrated resource planning, competitive bidding, and the prudence of a 102 MW wind farm proposed for cost pre-approval by Oklahoma Gas & Electric. 2009.
- Presented expert testimony on behalf of the Oklahoma Industrial Energy Consumers regarding the integrated resource planning, competitive bidding, and the prudence of a 520 MW purchased power agreement proposed for cost pre-approval by Public Service Company of Oklahoma. 2009.
- Presented expert testimony on behalf of the Oklahoma Attorney General regarding the integrated resource planning, competitive bidding, and the prudence of a 950 MW coal fired power facility proposed by Oklahoma Gas & Electric and Public Service Company of Oklahoma. 2006 – 2007.
- Advisor to Nova Scotia Power Inc. in support of their Integrated Resource Planning analysis and stakeholder collaboration process. 2006 - 07.
- Presented expert testimony on behalf of the Oklahoma Industrial Energy Consumers regarding the prudence of the resource planning and generation asset investments of Oklahoma Gas & Electric and Public Service Company of Oklahoma in two rate case proceedings. 2004 – 2005.
- Advisor to the Hawaii Consumer Advocate and the Oklahoma Industrial Energy Consumers in separate state regulatory commission investigations their respective states regarding rules for the use of competitive bidding in resource planning. 2005-2006.
- Prepared three technical audits for New Brunswick Power Distribution and Customer Service Corp. regarding its annual determination of power costs from power purchase agreements with its affiliated generation company, including review of production simulation model analysis and power contract terms. 2005 – 2006.
- Led La Capra Associates team in review of the California Department of Water Resources 2001 Power Procurement Program. La Capra Associates advised and assisted the California Bureau of State Audits conduct its two audits of this \$43 billion power

contracting effort and management of the State's power program during 2001 and 2002. 2001-2003.

- Presented expert testimony on before the Oklahoma Corporation Commission regarding the avoided costs of Oklahoma utilities and PURPA requirements pertaining to 1) the Lawton Cogeneration project (2002-03); 2) the PowerSmith Cogeneration project and proposed contract (2003-04), and 3) the Blue Canyon wind power project (2004-05).
- Prepared expert testimony and analysis regarding the outlook for benefits from the deregulation of the Arkansas retail generation market on behalf of the General Staff of the Arkansas Public Service Commission in an industry restructuring proceeding regarding the timing and approach to implementation of retail competition. 2000.
- Led La Capra Associates' team in conducting prudency reviews of the power procurement activities of Nevada Power Company and Sierra Pacific Power Company and presented testimony in the Sierra Pacific case on behalf of the Nevada Attorney General's Bureau of Consumer Protection. 2003.
- Led La Capra Associates team in review of San Diego Gas & Electric's approach to the California Block Forward Markets during the Fall 1999 to Summer 2000 period. Assist in the formation of testimony presented on behalf of the California Office of the Ratepayer Advocate before the California PUC. 2001.
- Presented expert testimony on the reliability, economic and environmental need for transmission to connect a 400 MW off-shore wind power project to the New England grid before the Massachusetts Energy Facility Siting Boards on behalf of Cape Wind. 2002-2003.
- Provided litigation support and deposition testimony regarding dispute of pricing provisions in two purchased power agreements with PURPA qualifying facilities on behalf of Central Maine Power Company. 1999 – 2004.
- Provided expert testimony on behalf of Vermont utilities regarding economic damages in an arbitration of a power purchase contract dispute with Hydro Quebec. 1999 – 2000.
- Directed a market valuation analysis of a 1000 MW New England generation portfolio, including a 360 MW hydroelectric system, assisting a major national generating company with the development of a purchase offer. 1997-98.
- On behalf of Central Maine Power (CMP), prepared and presented expert testimony before the Maine Public Utilities Commission on the prudency of CMP's power procurement program and specific power contract management activities. 1992-93.
- On behalf of CMP, prepared and presented expert testimony before the Maine Public Utilities Commission on the economic benefits of a proposed 30 year, 1000 MW power contract with Hydro Quebec. 1987-88.
- Directed CMP's power system planning activities, assessing power system economics, evaluating numerous IPP power sales contract proposals resulting from competitive solicitations, forecasting long-term market prices, preparing power system development plans, and preparing economic studies for the federal relicensing applications of several of CMP's hydropower facilities. 1987-93.

REPORTS AND PRESENTATIONS

Entergy Arkansas, Inc.'s Withdrawal from the Entergy System Agreement, Response to EAI's Analysis of All Strategic Options, Supplemental Initial Report prepared for the General Staff of the Arkansas Public Service Commission. July 12, 2011. Lead Consultant and Principal Author.

North Carolina's Renewable Energy Policy, A Look at REPS Compliance To Date, Resource Options for Future Compliance, and Strategies to Advance Core Objectives, prepared for the North Carolina Energy Policy Council. June 2011. Lead Consultant and Co-Author.

Energy Policy Implementation, Framework Overview: Paying for the Policies, presentation to the NECA/CPES 18th Annual New England Energy Conference, Groton, Connecticut, May 18, 2011.

Entergy Arkansas, Inc.'s Withdrawal from the Entergy System Agreement, Initial Report prepared for the General Staff of the Arkansas Public Service Commission. February 11, 2011. Lead Consultant and Principal Author.

Non-Transmission Alternatives Assessment for the Lewiston-Auburn Area, Report for Central Maine Power. August 27, 2010. Co-Author.

Emerging Regional Energy Issues, How RPS Requirements will Affect Vermont's Energy Future, presentation to the Vermont's Renewable Energy Future Conference, Burlington, Vermont October 1, 2010.

2010 Comprehensive Plan for the Procurement of Energy Resources, Report prepared for the Connecticut Energy Advisory Board. April 27, 2010. Lead Consultant and Principal Author.

Phase I Report: Assessment of Energy Supply Options for the Town of Millinocket, report to the Town of Millinocket, Maine. December 18, 2009. Lead Consultant and Principal Author.

2009 Comprehensive Plan for the Procurement of Energy Resources, Report prepared for the Connecticut Energy Advisory Board. May 1, 2009. Lead Consultant and Principal Author.

Evaluation of the Grid Solar Proposal, Review of the Economics of the Proposal as an Alternative to the Maine Power Reliability Program, Report prepared for Central Maine Power. April 3, 2009. Lead Consultant and Principal Author.

An Analysis of the Connecticut Light and Power Company's Proposed Greater Springfield Reliability Project and Manchester to Meekville Project and the Non-Transmission Project Proposed as Alternatives, Report prepared for the Connecticut Energy Advisory Board. February 17, 2009. Lead Consultant and Principal Author.

Preparing A State-Centric IRP in a Multi-State Power Market, presentation to the EUCI Conference on Resource and Supply Planning, Scottsdale, Arizona, February 11, 2009.

Resource Considerations of Transmission Planning, half-day workshop presented to the EUCI Conference on Resource and Supply Planning, Scottsdale, Arizona, February 11, 2009.

2008 Comprehensive Plan for the Procurement of Energy Resources, Report prepared for the Connecticut Energy Advisory Board. August 1, 2008. Lead Consultant and Principal Author.

Maine Power Reliability Project: Non-Transmission Alternatives Assessment and Economic Evaluation, Report for Central Maine Power. June 30, 2008. Lead Consultant and Principal Author.

Maine Power Connection: Locational Marginal Price and Production Cost Implications in Maine and New England, Report for Central Maine Power and Maine Public Service Company. June 30, 2008. Lead Consultant and Principal Author.

Impact of Aroostook Wind Energy on New England Renewable Energy Certificate Market, Report for Horizon Wind Energy. June 25, 2008. Lead Consultant.

Initial Review of Integrated Resource Plan for Connecticut, Report for the Connecticut Energy Advisory Board. January 28, 2008. Lead Consultant and Principal Author.

Connecticut's Long-Term Electric Capacity Requirements, Report of the Connecticut Energy Advisory Board. April 7, 2006. Lead Consultant and Principal Author.

Technical Audit – Phase III: Review of Increase in Fuel Component of Power Budget FY 2007 relative to FY 2006, prepared for the New Brunswick Power Distribution and Customer Service Corp., October 5, 2005. Lead Consultant and Principal Author.

Preliminary Assessment of Connecticut's Electric Supply and Demand: Near Term Requirements for Reliability and Mitigation of Federally Mandated Congestion Charges, The Connecticut Energy Advisory Board. September 2, 2005. Lead Consultant and Principal Author.

Technical Audit – Phase II: Review of Increase in Fuel Component of Power Budget FY 2006 relative to FY 2005, prepared for the New Brunswick Power Distribution and Customer Service Corp., July 7, 2005. Lead Consultant and Principal Author.

Technical Audit: Purchased Power Budget April 2005 – March 2006, prepared for the New Brunswick Power Distribution and Customer Service Corp., May 18, 2005. Lead Consultant and Principal Author.

Retail Choice Study: Issues and Options for Electric Generation Service, The Belmont Electricity Supply Study Committee, Belmont, Massachusetts. June 2, 2004. Lead Consultant and Principal Author.

California Energy Markets: The State's Position Has Improved, Due to Efforts by the Department of Water Resources and Other Factors, but Cost Issues and Legal Challenges Continue, California Bureau of State Audits, April 2, 2003. Lead Consultant and a Principal Author.

California Energy Markets: Pressures Have Eased, but Cost Risks Remain, California Bureau of State Audits, December 21, 2001. Lead Consultant and a Principal Author.

Development of Competition in Electric Markets and the Impact on Retail Consumers in Arkansas, Arkansas General Staff's Report, In The Matter of a Progress Report to the Arkansas

General Assembly on the Development of Competition in Electric Markets and the Impact, if any, on Retail Consumers, Docket No. 00-190-U, September 4, 2001. Principal Author.

Preliminary Market Value Assessment of PP&L Maine Hydroelectric Plants, August 2001. Proprietary report prepared for American Rivers, the Atlantic Salmon Federation, the Natural Resources Council of Maine, the Penobscot Indian Nation, and Trout Unlimited. Principal Author.

Development of Competition in Electric Markets and the Impact on Retail Consumers in Arkansas, Arkansas General Staff's Report, In The Matter of a Progress Report to the Arkansas General Assembly on the Development of Competition in Electric Markets and the Impact, if any, on Retail Consumers, Docket No. 00-190-U, September 29, 2000. Principal Author.

Wholesale Market Development: Timing and Issues Survey of Activity in Other Regions, FERC Initiatives, In The Matter of a Progress Report to the Arkansas General Assembly on the Development of Competition in Electric Markets and the Impact, if any, on Retail Consumers, Docket No. 00-190-U, September 29, 2000. Principal Author.

Retail Market Development: Timing and Issues Survey of Other States, In The Matter of a Progress Report to the Arkansas General Assembly on the Development of Competition in Electric Markets and the Impact, if any, on Retail Consumers, Docket No. 00-190-U, September 29, 2000. Principal Author.

The Progression toward Retail Competition in Arkansas' Neighboring States, In The Matter of a Progress Report to the Arkansas General Assembly on the Development of Competition in Electric Markets and the Impact, if any, on Retail Consumers, Docket No. 00-190-U, September 29, 2000. Principal Author.

Arkansas General Staff Proposal and Initial Comments, In The Matter of a Generic Proceeding to Establish Uniform Policies and Guidelines for a Standard Service Package, Docket No. 00-148-R, June 13, 2000. Principal Author.

Arkansas General Staff Initial Comments, In The Matter of a Generic Proceeding to Determine if Metering, Billing, and Other Services Are Competitive Services, Docket No. 00-054-U, March 31, 2000. Principal Author.

Arkansas General Staff Initial Comment and Proposed Market Power Analysis Minimum Filing Requirements, In The Matter of a Generic Proceeding to Establish Filing Requirements and Guidelines Applicable to Market Power Analyses, Docket No. 00-048-R, March 28, 2000. Contributing Author.

Vermont Electricity Prices: Regional Competitiveness Outlook; Implications of Restructuring in New England and New York, February 2000 Edition, prepared for Central Vermont Public Service. Principal Author.

Projected Retail Price of Electricity for Massachusetts Electric Company, Boston Edison Company, and Western Massachusetts Electric Company, September 1999, prepared for Massachusetts Municipal Wholesale Electric Company. Principal Author.

Comments of the Commonwealth of Massachusetts Division of Energy Resources, in the Investigation by the Department of Telecommunication and Energy into Pricing and Procurement of Default Service, July 1999 (Initial and Reply Comments). Contributing Author.

Need for Power Supply: The New England Power Pool and the State of Rhode Island, March 1999, prepared for Indeck – North Smithfield Energy Center.

Vermont Electricity Prices: Regional Competitiveness Outlook; Implications of Restructuring in Northeast States, a Report to the Working Group on Vermont's Electricity Future, November 1998, prepared for Central Vermont Public Service. Principal Author.

EXPERT TESTIMONY AND APPEARANCES

<u>Forum</u>	<u>Client</u>	<u>Topic</u>
Arkansas Public Service Commission	General Staff of the AK Public Service Comm.	<p>Testimony regarding the evaluation of Entergy Arkansas's strategic reorganization options upon its exit from the Entergy System Agreement.</p> <p>Supplemental Initial Testimony July 12, 2011 Initial Testimony February 11, 2011</p>
State Corporation Commission of the State of Kansas	The Landowner Group	<p>Testimony regarding the application of ITC Great Plains for a siting permit for a 345-kV Transmission Line addressing project need and route selection methodology.</p> <p>Initial Testimony April 18, 2011</p>
Federal Energy Regulatory Commission (FERC) RM10-23-000	Maine Public Utilities Commission, et. al.	<p>Expert Affidavit regarding economic analysis methodology for transmission project evaluation. Provided in reply comments on the FERC Transmission Planning and Cost Allocation NOPR.</p> <p>Affidavit November 12, 2010</p>
Maine Public Utilities Commission Docket No. 2008-255	Central Maine Power	<p>Testimony regarding CMP's application for approval the Lewiston Loop 115kV Transmission Project. Testimony addressed non-transmission alternatives.</p> <p>Oral Testimony November 16, 2008 December 14, 2010 Rebuttal Testimony November 8, 2010 August 27, 2010</p>
Oklahoma Corporation Commission Cause No. PUD 201000092	OK Corporation Commission OK Attorney General	<p>Testimony regarding a 99.2 MW wind farm power purchase agreement and green energy choice tariff proposed by Public Service Company of Oklahoma, addressing cost pre-approval, resource need, and competitive procurement. requirements..</p> <p>Prefiled Testimony October 5, 2010 Oral Testimony November 3, 2010</p>
Oklahoma Corporation Commission Cause No. PUD 201000037	Oklahoma Attorney General	<p>Testimony regarding a 198 MW wind farm proposed by Oklahoma Gas & Electric, addressing cost pre-approval, resource need, and competitive procurement. requirements.</p> <p>Prefiled Testimony June 11, 2010</p>
Connecticut Dept. of Public Utilities Control (DPUC) Docket No, 10-02-07	Connecticut Energy Advisory Board (CEAB)	<p>Lead witness sponsoring the CEAB's 2010 <i>Comprehensive Plan for the Procurement of Energy Resources</i>.</p> <p>Oral Testimony June 2 & 3, 2010</p>

<p>Georgia Public Service Commission Docket No, 31081</p>	<p>Georgia Public Service Commission Public Interest Advocacy Staff</p>	<p>Witness sponsoring testimony regarding integrated resource planning methods, renewable energy, solar PV demonstration projects, and uncertainty analysis. Written Testimony May 7, 2010 Oral Testimony May 18, 2010</p>
<p>Maine Public Utilities Commission Docket No. 2008-255</p>	<p>Central Maine Power</p>	<p>Testimony regarding CMP's application for approval \$1.5 B Maine Power Reliability Transmission Project. Testimony addressed non-transmission alternatives and economic benefits, economics of proposed solar alternative, wind energy development benefits. Oral Testimony October 10, 2008 November 19, 2008 December 21, 2009 February 4, 2010 Rebuttal Testimony December 4, 2009 April 3, 2009</p>
<p>Oklahoma Corporation Commission Cause No. PUD 200900167</p>	<p>Oklahoma Attorney General</p>	<p>Testimony regarding a 102 MW wind farm proposed by Oklahoma Gas & Electric, addressing cost pre-approval, resource need, and competitive procurement. requirements. Prefiled Testimony Sept 29, 2009</p>
<p>Oklahoma Corporation Commission Cause No. PUD 200900099</p>	<p>Oklahoma Industrial Energy Consumers (OIEC)</p>	<p>Testimony regarding a power contract pre-approval and recovery of Independent Evaluator costs of Public Service Company of Oklahoma. Prefiled Testimony July 14, 2009</p>
<p>Connecticut Dept. of Public Utilities Control (DPUC) Docket No, 09-05-02</p>	<p>Connecticut Energy Advisory Board (CEAB)</p>	<p>Lead witness sponsoring the CEAB's 2009 <i>Comprehensive Plan for the Procurement of Energy Resources</i>. Oral Testimony June 30, 2009</p>
<p>Connecticut Dept. of Public Utilities Control (DPUC) Docket No, 08-07-01</p>	<p>Connecticut Energy Advisory Board (CEAB)</p>	<p>Lead witness sponsoring the CEAB's 2008 <i>Comprehensive Plan for the Procurement of Energy Resources</i>. This Plan is the first prepared under the State's new integrated resource planning statute. Oral Testimony August 28, 2008 September 22, 2008 October 3, 2008</p>
<p>Maine Superior Court Civil Action Docket No. cv-06-705</p>	<p>Worcester Energy Co., Inc.</p>	<p>Expert opinion regarding renewable energy and power procurement services. Prefiled Report January 30, 2008 Oral Testimony March 18, 2009</p>

Massachusetts Dept. Of Telecommunications And Energy Docket No. DTE/DPU-06-60	Russell Biomass	Testimony regarding economic, reliability and environmental need for renewable power in the Massachusetts and New England in support of Russell Biomass petition for a zoning exemption. Prefiled Testimony June 2007 Oral Testimony October 30, 2007
Hawaii Public Utilities Commission Docket No. 04-0046	Hawaii Division of Consumer Advocacy	Testimony regarding Hawaii Electric Light Company's integrated resource plan. Prefiled Testimony September 28, 2007 Oral Testimony November 26, 2007
Nevada Public Utilities Commission Docket No. 06-12002	Nevada Attorney General Bureau of Consumer Protection	Testimony regarding the prudence of Sierra Pacific Power Company in its purchased power expenses for the period December 2001 through November 2002. Prefiled Testimony September 14, 2007
Oklahoma Corporation Commission Cause No. PUD 2005516 Cause No. PUD 2006030 Cause No. PUD 2007012	Oklahoma Attorney General	Testimony regarding a 950 MW coal-fired generation facility proposed by Public Service of Oklahoma and Oklahoma Gas & Electric, including IRP, competitive procurement, and construction financing issues. Prefiled Testimony May 21, 2007 Rebuttal Testimony June 18, 2007 Oral Testimony July 26, 2007
Oklahoma Corporation Commission Cause No. PUD 2002-038 REMAND	Oklahoma Industrial Energy Consumers (OIEC)	Testimony regarding a power contract proposal of Lawton Cogeneration and the pricing analysis of Public Service Company of Oklahoma. Prefiled Testimony October 28, 2005 Rebuttal Testimony March 17, 2006 Oral Testimony May 9, 2006
New Brunswick Board of Commissioners of Public Utilities (PUB) Ref: 2005-002	New Brunswick Power Distribution Company	Testimony regarding La Capra Associates' three technical audits of the NBP-Disco purchased power budget and variance analyses for FY 2004 – 2006. Oral Testimony February 14-22, 2006
Connecticut Department of Public Utility Control Docket No. 05-07-14 Phases I and II	Connecticut Energy Advisory Board	Testimony regarding Connecticut's need for electric capacity to meet reliability requirements and to mitigate congestion charges in the wholesale markets. Oral Testimony February 14-22, 2006 May 1, 2006 June 15, 2006 September 26, 2005
Hawaii Public Utilities Commission Docket No. 03-0372	Hawaii Division of Consumer Advocacy	Testimony regarding competitive bidding rules and integrated resource planning. Oral Testimony December 12-16, 2005

Oklahoma Corporation Commission Cause No. PUD 2005-151	Oklahoma Industrial Energy Consumers (OIEC)	Testimony regarding resource planning, prudence of generation investment of Oklahoma Gas & Electric Company. Prefiled Testimony September 12, 2005 Rebuttal Testimony September 29, 2005 Oral Testimony October 18, 2005
Oklahoma Corporation Commission Cause No. PUD 2003-076	Oklahoma Industrial Energy Consumers (OIEC)	Testimony regarding resource planning, prudence of generation investment and fuel and purchased power expenses of Public Service Company of Oklahoma. Prefiled Testimony January 4, 2005
Oklahoma Corporation Commission Cause No. PUD 2003-633/4	Oklahoma Industrial Energy Consumers (OIEC)	Testimony regarding power contract proposal for Blue Canyon wind development and avoided costs of Public Service Company of Oklahoma. Prefiled Testimony August 16, 2004
Civil Litigation Maine Superior Court Docket No. CV-01-24	Central Maine Power Co.	Factual and expert witness in litigation regarding pricing provisions of a purchased power agreement between Central Maine Power and Benton Falls Associates. Deposition Testimony April 28, 2004
Oklahoma Corporation Commission	Oklahoma Attorney General	Testimony regarding power contract proposal for PowerSmith Cogeneration and avoided cost analysis of Oklahoma Gas & Electric Company. Prefiled Testimony February 18, 2004 Rebuttal Testimony March 16, 2004 Oral Testimony August 4, 2004
Nevada Public Utilities Commission	Nevada Attorney General Bureau of Consumer Protection	Testimony regarding the Nevada Power Company's Integrated Resource Plan and associated financial plan. Prefiled Testimony September 19, 2003 Oral Testimony October 15, 2003
Massachusetts Energy Facilities Siting Council Docket No. EFSB-02-2	Cape Wind	Testimony regarding economic, reliability and environmental need for power in the Massachusetts and New England power markets regarding the need for new wind power facility. Prefiled Testimony February 14, 2003 Oral Testimony August 6&7, 2003
Maine State Board of Property Tax Review	United American Hydro	Testimony regarding the Maine and New England power market prices pertaining to the valuation of a hydro-electric power facility in Winslow, Maine. Oral Testimony June 18, 2003
Nevada Public Utilities Commission Docket No. 03-1014	Nevada Attorney General Bureau of Consumer Protection	Testimony regarding the prudence of Sierra Pacific Power Company in its purchased power expenses for the period December 2001 through November 2002. Prefiled Testimony April 25, 2003
Oklahoma Corporation Commission Cause No. PUD 2002-038	Oklahoma Attorney General	Testimony regarding a power contract proposal of Lawton Cogeneration and the pricing analysis of Public Service Company of Oklahoma.

		Prefiled Testimony	December 16, 2002
		Oral Testimony	May 22, 2003
Arkansas Public Service Commission	General Staff of the AK Public Service Comm.	Testimony regarding the Development of Competition in Electric Markets and the Impact on Retail Consumers in Arkansas.	
		Prefiled Testimony	September 4, 2001
Arkansas Public Service Commission	General Staff of the AK Public Service Comm.	Testimony regarding the Development of Competition in Electric Markets and the Impact on Retail Consumers in Arkansas.	
		Prefiled Testimony	September 29, 2000
Arkansas Public Service Commission	General Staff of the AK Public Service Comm.	Testimony regarding the establishment of uniform Policies and guidelines for a Standard Service Package.	
		Staff Proposal and Comments	June 13, 2000
		Reply Comments	July 21, 2000
		Sur reply Comments	August 2, 2000
		Oral Testimony	August 8, 2000
		Petition for Rehearing	
		Rebuttal Testimony	November 15, 2000
		Oral Testimony	November 29, 2000
Arkansas Public Service Commission	General Staff of the AK Public Service Comm.	Testimony regarding the determination of the merits of declaring retail billing services competitive effective At the start of retail open access.	
		Oral Testimony	June 27, 2000
		Prefiled Rebuttal Testimony	June 23, 2000
		Prefiled Testimony	June 16, 2000
		Oral Testimony	May 10, 2000
Arkansas Public Service Commission	General Staff of the AK Public Service Comm.	Testimony regarding the minimum filing requirements for market power studies to be filed by the Arkansas Electric utilities and affiliated retail companies.	
		Oral Testimony	June 1, 2000
Amer. Arb. Assoc. No. 50T 198 00197-98	Vermont Joint Owners	Testimony regarding economic damages resulting from alleged breach of a long-term purchase power agreement between Hydro-Quebec and Vermont utilities (VJO).	
		Oral Testimony	May 25, 2000
		Prefiled Rebuttal Testimony	February 10, 2000
		Prefiled Testimony	August 13, 1999
Rhode Island Energy Facilities Siting Board	Indeck-North Smithfield, L.L.C.	Testimony regarding economic, reliability and environmental need for power in the Rhode Island and New England power markets regarding the need for new, merchant power facility.	
		Prefiled Testimony	August 16, 1999
		Oral Testimony	August 17, 2000
		Prefiled Testimony	January 26, 2001
		Oral Testimony	March 23, 2001
Civil Litigation Maine Superior Court Docket No. CV-98-212	Central Maine Power Co.	Factual and expert witness in litigation regarding pricing provisions of a purchased power agreement between Central Maine Power and Regional Waste Systems.	
		Deposition Testimony	May 5, 1999

Connecticut Energy Facilities Siting Council Docket No. 190	PDC – El Paso Meriden LLC	Testimony regarding economic, reliability and environmental need for power in the Connecticut and New England power markets regarding the need for new, merchant power facility. Prefiled Testimony	January 25, 1999
Rhode Island Energy Facilities Siting Council Docket No. SB-98-1	R. I. Hope Energy, L. P.	Testimony regarding economic, reliability and environmental need for power in the Massachusetts and New England power markets regarding the need for new, merchant power facility. Oral Testimony Prefiled Testimony	November 4, 1998 October 30, 1998
Massachusetts Energy Facilities Siting Council Docket No. EFSB-91-101A	Cabot Power Corp.	Testimony regarding economic, reliability and environmental need for power in the Massachusetts and New England power markets regarding the need for new, merchant power facility. Oral Testimony Prefiled Testimony	May 27, 1998 August 15, 1997
Massachusetts Energy Facilities Siting Council Docket No. EFSB-97-2	ANP Blackstone Energy	Testimony regarding economic, reliability and environmental need for power in the Massachusetts and New England power markets regarding the need for new, merchant power facility. Oral Testimony Prefiled Testimony	April 6, 1998 January 23, 1998
Massachusetts Energy Facilities Siting Council Docket No. EFSB-97-1	ANP Bellingham	Testimony regarding economic, reliability and environmental need for power in the Massachusetts and New England power markets regarding the need for new, merchant power facility. Oral Testimony	February 3, 1998 January 28, 1998
Rhode Island Energy Facilities Siting Board Docket No. SB-97-1	Tiverton Power Associates LP	Testimony regarding economic, reliability and environmental need for power in the Rhode Island and New England power markets regarding the need for new, merchant power facility. Oral Testimony Prefiled Testimony	October 15, 1997 October 1, 1997
Maine Public Utilities Commission Docket No. 92-102	Central Maine Power	Testimony regarding CMP's avoided cost methods and practices pertaining to the prudence of power purchase contract decisions with regard to contract awards and contract management. Oral Testimony Deposition Testimony Prefiled Rebuttal Testimony Prefiled Testimony	July 1993 February 25, 1993 March 1, 1993 June 7, 1993 June 15, 1992
Maine Public Utilities Commission Docket No. 92-315	Central Maine Power	Testimony regarding CMP's avoided cost methods and practices pertaining to the setting of long-term avoided costs, CMP's Energy Resource Plan, and the relationship of marginal costs of generation to embedded costs. Supplemental Prefiled Testimony Prefiled Testimony	April 20, 1993 February 17, 1993

Maine Public Utilities Commission
Docket No. 87-261
Docket No. 88-111

Central Maine Power

Testimony regarding CMP's avoided cost methods and practices pertaining to the setting of long-term avoided costs, CMP's Energy Resource Plan, and the proposal for a 900 MW power Contract with Hydro Quebec.

Oral Testimony
Pefiled Testimony

Summer 1988
October 31, 1987



Richard S. Hahn

Principal Consultant

Mr. Hahn is a senior executive in the energy industry, with diverse experience in both regulated and unregulated companies. He joined La Capra Associates in 2004. Mr. Hahn has a proven track record of analyzing energy, capacity, and ancillary services markets, valuation of energy assets, developing and reviewing integrated resource plans, creating operational excellence, managing full P&Ls, and developing start-ups. He has demonstrated expertise in electricity markets, utility planning and operations, sales and marketing, engineering, business development, and R&D. Mr. Hahn also has extensive knowledge and experience in both the energy and telecommunications industries. He has testified on numerous occasions before the Massachusetts Department of Public Utilities, and also before FERC.

SELECTED EXPERIENCE – LA CAPRA ASSOCIATES

- Reviewed and analyzed a proposed retail rate increase by Fitchburg Gas and Electric Company before the Massachusetts Department of Public Utilities. Provided expert testimony before the Massachusetts Department of Public Utilities regarding the Company's proposed Capital Spending Plan, and an accompanying recovery mechanism.
- Conducted a study of non-transmission alternatives to a proposed substation and related transmission upgrades in Georgia, Vermont.
- Reviewed and analyzed damages claimed in litigation between a developer of renewable energy facilities and the owner of the host site.
- Evaluated the decision of PacifiCorp to acquire new generating resources in Utah. Filed testimony before the Public Service Commission of Utah.
- Served as a principal advisor and key team member in La Capra Associates' assessment of strategic options for Entergy Arkansas, Inc. subsequent to its withdrawal from the Entergy System Agreement.
- Conducted a study of non-transmission alternatives to a proposed substation and related transmission upgrades in Jay, Vermont.
- Reviewed and evaluated the construction of and cost recovery for a large cogeneration plant for a mid-west utility; utilized heat balance analysis to develop new cost allocators between steam and electric sales.
- Analyzed fuel costs, market sales and revenues, capacity position, and performance parameters for a large- mid-west utility.
- Performed a review and analysis of the proposed merger between FirstEnergy and Allegheny Energy. Provided expert testimony before the FERC and the Pennsylvania Public Utilities Commission regarding merger policy, benefits and market power issues.
- Performed a study of non-transmission alternatives to a proposed transmission project in the Lewiston-Auburn area of Central Maine Power Company's service territory. Testified before the Maine Public Utilities Commission.
- Analyzed a proposed plan by National Grid to procure 2011 default service power supplies and comply with Renewable Energy Standards. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Served as an advisor to the Pennsylvania Office of Consumer Advocate in reviewing 2011 default service plans for Pennsylvania Electric Distribution Companies.

- Analyzed a purchase power agreement between National Grid and on offshore wind project in Rhode Island. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Reviewed and analyzed a proposed retail rate increase by Western Massachusetts Electric Company before the Massachusetts Department of Public Utilities. Provided expert testimony before the Massachusetts Department of Public Utilities regarding the Company's proposed Capital Plan, and an accompanying recovery mechanism.
- Served as an advisor to the developer of a utility-scale Solar PV facility in Massachusetts.
- Evaluated a proposed Solar PV installation for a large retail customer in Massachusetts. Performed an analysis of the appropriate rate of return and its impact on facility electric costs and financial feasibility.
- Assessed the economic impact of an additional interconnection between ISO-NE and NYISO; analyzed impact on market prices and congestion.
- Reviewed and analyzed the capacity position of a large mid-west utility and the impact of that position on electric rates.
- Performed an economic evaluation of a proposed transmission line in New England. Assessed the project's ability to deliver renewable energy to load centers and the impact of the project on Locational Marginal Prices.
- Analyzed a proposed interconnection of a large new industrial load in Massachusetts. Evaluated proposed substation configuration and developed alternatives that achieved comparable reliability at lower costs. Assessed cost recovery options.
- Reviewed the Energy Efficiency and Conservation Programs proposed by Pennsylvania Power & Light and Philadelphia Electric Company in response to Act 129, Pennsylvania legislation that requires Electric Distribution Companies to achieve certain annual consumptions and demand reduction by 2013. Provided expert testimony before the Pennsylvania Public Utilities Commission regarding program design, benefit cost analyses, and cost recovery.
- Assisted in the review and analysis of a proposed retail rate increase by National Grid before the Rhode Island Public Utilities Commission. Provided expert testimony before the Rhode Island Public Utilities Commission regarding the Company's proposed Inspection & Maintenance Program, its Capital Plan, its Storm Funding Plan, and its Facilities Plan
- Reviewed and analyzed Time-of-Use rates proposed by Pennsylvania Power & Light. Provided expert testimony before the Pennsylvania Public Utilities Commission regarding compliance with Commission requirements, rate design, cost recovery, and consumer education issues.
- Assisted in the review and analysis of a proposed retail rate increase by National Grid before the Massachusetts Department of Public Utilities. Provided expert testimony before the Massachusetts Department of Public Utilities regarding the Company's proposed Inspection & Maintenance Program, its Capital Plan, its Storm Funding Plan, and its Facilities Plan.
- Performed a review and analysis of the proposed merger between Exelon and NRG. Provided expert testimony before the Pennsylvania Public Utilities Commission regarding merger policy, benefits and market power issues.
- Reviewed the needs analysis and load forecast supporting a proposed Transmission Project in Rhode Island. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Performed an assessment of plans to procure Default Service Power Supplies for a Rhode Island utility. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Served as an advisor to Vermont electric utilities regarding the evaluation of new power supply alternatives. Developed and applied a probabilistic planning tool to model uncertainty in costs and operating parameters.

- Conducted a review of Massachusetts electric utilities' proposal to construct, own, and operate large scale PV solar generating units. Served as an advisor to the Massachusetts Attorney General in settlement negotiations. Performed an analysis of the appropriate rate of return and its impact on ratepayer costs and financial feasibility. Provided expert testimony before the Massachusetts Department of Public Utilities.
- Served as a key member of a La Capra Associates Team evaluating wind generation RFPs in Oklahoma.
- Performed an assessment of plans to procure Default Service Power Supplies for Pennsylvania utilities. Provided expert testimony before the Pennsylvania Public Utilities Commission.
- Performed an assessment of a merchant generator proposal to construct, own, and operate 800 MW of large scale PV solar generating units in Maine.
- Analyzed proposed environmental upgrades to several existing coal-fired power plants in Wisconsin, including an economic evaluation of this investment compared to alternative supply resources. Provided expert testimony in three separate proceedings before the Public Service Commission of Wisconsin.
- Reviewed Pennsylvania Act 129 and Commission rules for Energy Efficiency Plans
- Performed a study of non-transmission alternatives (NTAs) to a proposed set of transmission upgrades to the bulk power supply system in Maine.
- Served as a key member of the La Capra Associates Team advising the Connecticut Energy Advisory Board (CEAB) on a wide range of energy issues, including integrated resources plan and the need for and alternatives to new transmission projects.
- Performed a study of non-transmission alternatives (NTAs) to a proposed set of transmission upgrades to the bulk power supply system in Vermont.
- Served as an advisor to the Delaware Public Service Commission and three other state agencies in the review of Delmarva Power & Light's integrated resource plan and the procurement of power supplies to meet SOS obligations.
- Served as an expert witness in litigation involving a contract dispute between the owner of a merchant powerplant and the purchasers of the output of the plant.
- Served as an advisor to the Maryland Attorney General's Office in the proposed merger between Constellation Energy and the FPL Group.
- Reviewed and analyzed outages for Connecticut utilities during the August 2006 heat wave. Prepared an assessment of utility filed reports and corrective actions.
- Conducted a study of required planning data and prepared forecasts of the key drivers of future power supply costs for public power systems in New England.
- Reviewed and analyzed Hawaiian Electric Company integrated resource plan and its DSM programs for the State of Hawaii. Prepared written statement of position and testified in panel discussions before the Hawaii Public Utility Commission.
- Assisted the Town of Hingham, MA in reviewing alternatives to improve wireless coverage within the Town and to leverage existing telecommunication assets of the Hingham Municipal Light Plant.
- Conducted an extensive study of distributed generation technologies, options, costs, and performance parameters for VELCO and CVPS.
- Analyzed and evaluated proposals for three substations in Connecticut. Prepared and issued RFPs to seek alternatives in accordance with state law.

- Performed an assessment of merger savings from the First Energy – GPU merger. Developed a rate mechanism to deliver the ratepayers share of those savings. Filed testimony before the PA PUC.
- Prepared long term price forecasts for energy and capacity in the ISO-NE control area for evaluating the acquisition of existing powerplants.
- Conducted an assessment of market power in PJM electricity markets as a result of the proposed merger between Exelon and PSEG. Developed a mitigation plan to alleviate potential exercise of market power. Filed testimony before the PA PUC.
- Performed a long-term locational installed capacity (LICAP) price forecast for the NYC zone of the NYISO control area for generating asset acquisition.
- Served as an Independent Evaluator of a purchase power agreement between a large mid-west utility and a very large cogeneration plant. Evaluated the implementation of amendments to the purchase power agreement, and audited compliance with very complex contract terms and operating procedures and practices.
- Performed asset valuation for energy investors targeting acquisition of major electric generating facility in New England. Prepared forecast of market prices for capacity and energy products. Presented overview of the market rules and operation of ISO-NE to investors.
- Assisted in the performance of an asset valuation of major fleet of coal-fired electric generating plants in New York. Prepared forecast of market prices for capacity and energy products. Analyzed cost and operations impacts of major environmental legislation and the effects on market prices and asset valuations.
- Conducted an analysis of the cost impact of two undersea electric cable outages within the NYISO control area for litigation support. Reviewed claims of cost impacts from loss of sales of transmission congestion contracts and replacement power costs.
- Reviewed technical studies of the operational and system impacts of major electric transmission upgrades in the state of Connecticut. Analysis including an assessment of harmonic resonance and type of cable construction to be deployed.
- Conducted a review of amendments to a purchased power agreement between an independent merchant generator and the host utility. Assessed the economic and reliability impacts and all contract terms for reasonableness.
- Assisted in the development of an energy strategy for a large Midwest manufacturing facility with on-site generation. Reviewed electric restructuring rules, electric rate availability, purchase & sale options, and operational capability to determine the least cost approach to maximizing the value of the on-site generation.
- Assisted in the review of the impact of a major transmission upgrade in Northern New England.
- Negotiated a new interconnection agreement for a large hotel in Northeastern Massachusetts.

SELECTED EXPERIENCE – NSTAR ELECTRIC & GAS

President & COO of NSTAR Unregulated Subsidiaries

Concurrently served as President and COO of three unregulated NSTAR subsidiaries: Advanced Energy Systems, Inc., NSTAR Steam Corporation, and NSTAR Communications, Inc.

Advanced Energy Systems, Inc.

- Responsible for all aspects of this unregulated business, a large merchant cogeneration facility in Eastern Massachusetts that sold electricity, steam, and chilled water. Duties included management, operations, finance and accounting, sales, and P&L responsibility.

NSTAR Steam Corporation

- Responsible for all aspects of this unregulated business, a district energy system in Eastern Massachusetts that sold steam for heating, cooling, and process loads. Duties included management, operations, finance and accounting, sales, and P&L responsibility.

NSTAR Communications, Inc.

- Responsible for all aspects of this unregulated business, a start-up provider of telecommunications services in Eastern Massachusetts. Duties included management, operations, finance and accounting, sales, and P&L responsibility.
- Established a joint venture with RCN to deliver a bundled package of voice, video, and data services to residential and business customers. Negotiated complex indefeasible-right-to-use and stock conversion agreements.
- Installed 2,800 miles of network in three years. Built capacity for 230,000 residential and 500 major enterprise customers.
- Testified before the Congress of the United States on increasing competition under the Telecommunications Act of 1996.

VP, Technology, Research, & Development, Boston Edison Company

- Responsible for identifying, evaluating, and deploying technological innovation at every level of the business.
- Reviewed Electric Power Research Institute (EPRI), national laboratories, vendor, and manufacturer R&D sources. Assessed state-of-the-art electro-technologies, from nuclear power plant operations to energy conservation.

VP of Marketing, Boston Edison Company

- Promoted and sold residential and commercial energy-efficiency products and customer service programs.
- Conducted market research to develop an energy-usage profile. Designed a variable time-of-use pricing structure, significantly reducing on-peak utilization for residential and commercial customers.
- Designed and marketed energy-efficiency programs.
- Established new distribution channels. Negotiated agreements with major contractors, retailers, and state and federal agencies to promote new energy-efficient electro-technologies.

Vice President, Energy Planning, Boston Edison Company

- Responsible for energy-usage forecasting, pricing, contract negotiations, and small power and cogeneration activities. Directed fuel and power purchases
- Implemented an integrated, least-cost resource planning process. Created Boston Edison's first state-approved long-range plan.
- Assessed non-traditional supply sources, developed conservation and load-management programs, and purchased from cogeneration and small power-production plants.
- Negotiated and administered over 200 transmission and purchased power contracts.

- Represented the company with external agencies. Served on the Power Planning Committee of the New England Power Pool.
- Testified before federal and state regulatory agencies.

EMPLOYMENT HISTORY

La Capra Associates, Inc. Principal Consultant	Boston, MA	2004 – present
Advanced Energy Systems, Inc. President and COO	Boston, MA	2001-2003
NSTAR Steam Corporation President and COO	Cambridge, MA	2001-2003
NSTAR Communications, Inc. President and COO		1995-2003
Boston Edison Company VP, Technology, Research, & Development	Boston, MA	1993-1995
VP, Marketing, Boston Edison Company		1991-1993
Vice President, Energy Planning, Boston Edison Company		1987-1991
Manager, Supply & Demand Planning		1984-1987
Manager, Fuel Regulation & Performance		1982-1984
Assistant to Senior Vice President, Fossil Power Plants		1981-1982
Division Head, Information Resources		1978-1981
Senior Engineer, Information Resource Division		1977-1978
Assistant to VP, Steam Operations		1976-1977
Electrical Engineer, Research & Planning Department		1973-1976

EDUCATION

Boston College Masters in Business Administration	1982	Boston, MA
Northeastern University Masters in Science, Electrical Engineering	1974	Boston, MA
Northeastern University Bachelors in Science, Electrical Engineering	1973	Boston, MA

PROFESSIONAL AFFILIATIONS

Director, NSTAR Communications, Inc.	1997-2003
Director, Advanced Energy Systems, Inc.	2001-2003
Director, Neuco, Inc.	2001-2003
Director, United Telecom Council	1999-2003
Head, Business Development Division, United Telecom Council	2000-2003
Elected Commissioner – Reading Municipal Light Board	2005-present
Registered Professional Electrical Engineer in Massachusetts	

John G. Athas

Principal Consultant and Treasurer

John Athas joined La Capra Associates in 2006, bringing nearly 30 years of diverse electric industry experience. He has substantial, hands-on skills having worked for an electric utility, a competitive retail electric services provider, a power technology manufacturer, and an energy industry consulting firm. Through extensive practical application, he has assumed leadership roles in resource planning, analysis of competitive wholesale and retail markets, financial and risk analysis, strategic planning, and contracts and transactions. With expertise in utility regulation, energy marketing and product development, energy policy, asset valuation, mergers and acquisitions, and corporate strategy, Mr. Athas has provided clients valuable insight from his unique blend of experience in strategy consulting, technical evaluations and energy market participation. Mr. Athas holds an M.B.A. from the University of Connecticut, an M.S. in Mechanical Engineering from Rensselaer Polytechnic Institute, and a B.E. from Cooper Union.

PROFESSIONAL EXPERIENCE

Integrated Resource Planning

- Collaborating to review and critique the Connecticut utilities' 2010 IRP on behalf of the Connecticut Energy Advisory Board (CEAB), including extending analysis and modeling to 2030.
- Managing consultant leading IRP planning and related regulatory filings for various New England electric utilities and cooperatives, including Green Mountain Power, Washington Electric Cooperative (VT), Vermont Electric Cooperative, and Vermont Marble Power.
- Provided a critique of Public Service of Oklahoma's IRP and Oklahoma Gas & Electric Company's IRP, in response to their joint application to build a base load coal fired generating capacity, on behalf of the Oklahoma Attorney General's Office.
- Managed NU's resource planning function from the inception of Integrated Demand/Supply Planning (now IRP) through 1991.

Market Analysis

- Project manager and principal lead on analysis for Vermont Combined Heat and Power and Distributed Generation Potential Study in 2010 on behalf of Vermont's System Planning Committee
- Provide principal leadership to the team responsible for the La Capra Associates' Electric Market Model, which is used to support the analysis for numerous client projects.
- Conducted scenario planning studies for all North America regional power markets (U.S. and Canada). Provided capacity requirements, resource adequacy assessment, and energy price outlooks.
- Conducted scenario planning studies for all North America regional power markets (U.S. and Canada). Provided capacity requirements, resource adequacy assessment, and energy price outlooks.
- Charged with the role of principal for power research and consulting for the Eastern Energy Service, providing insight into the interactions of electric and gas markets within the Eastern Interconnect.

Market Analysis – cont'd.

- Led marketing, structuring and product development for Select Energy's retail energy commodity and energy services business.
- Directed market research regarding customer choice and customer satisfaction.
- Supervised market modeling activities for North America (U.S. and Canada) for Cambridge Energy Research Associates (CERA).
- Analyzed power prices and their impacts on clients in the evolving market structures for ISO New England (ISO-NE), New York Independent System Operator (NYISO) and the PJM Interconnection (PJM).
- Developed and negotiated aggregation sales agreements for Select Energy.

Rates and Regulation

- Provided expert review and critique for Public Service Organization of Oklahoma's request for proposal for baseload generation in support of the Office of the Attorney General.
- Provided review and comment on the Philadelphia Electric Smart Metering Implementation Plan for the Pennsylvania Office of Consumer Advocate
- Drafted changes to proposed demand-side rules in Oklahoma for the Oklahoma Industrial Energy Consumers.
- Managed rates and cost-of-service functions for Northeast Utilities (NU).
- Introduced NU's special contracting flexible rate tariffs in Connecticut and Massachusetts.
- Negotiated special contracts with NU's large customers in Massachusetts, Connecticut and New Hampshire.

Utility Planning

- Managed strategic planning analyses for NU including the areas of competition, integrated resource planning (IRP), and utility strategic and organizational goal development.
- Led the team responsible for analysis and presentation materials for executive planning conferences, including utility diversification into energy services and merchant generation.
- Supervised generation planning for a large utility, provided economic and financial analysis of power plant construction and capital additions and determined avoided costs.
- Developed a New England market entry business plan for Direct Energy's retail business.
- Advised the management team at Cape Light Compact on the merits of forming an Electric Cooperative.

Expert Witness

- Presented expert testimony on behalf of the Oklahoma Attorney General before the Oklahoma Corporation Commission regarding IRP and baseload coal RFPs. (*Causes Nos. PUD 200500516, 200600030, 200700012, 2006 through 2007.*)
- Presented expert testimony before the Connecticut Department of Public Utility Control (DPUC) for Select Energy in Connecticut regarding its retail licensing application in 2000.
- Testified on customer impacts, pricing levels and utility planning during various electric industry restructuring proceedings in Connecticut and Massachusetts.
- Presented expert testimony on numerous occasions before the Connecticut DPUC regarding special contract approvals.

EMPLOYMENT HISTORY

La Capra Associates, Inc. Boston, MA
Principal Consultant 2009 - Present
Managing Consultant 2006 - 2009

Direct Energy North America Stamford, CT
Independent Consultant 2005

Assignment – New England Market Entry Business Plan, Channel Management Plan Development

Northeastern US Markets

Developing a business plan outlining the potential market entry for the client into the New England power market.

Cambridge Energy Research Associates Cambridge, MA
Associate Director, North American Electric Power 2001 – February 2005
Eastern North American Energy Service Principal

Developed independent primary research on various aspects of power markets around the Eastern U.S. and Canada, primarily responsible for the Northeast and Midwest markets, including price outlooks for energy and “full requirements” electric power. Analyzed market structure, supply/demand balances, price caps, market clearing prices, capacity markets, and generation technologies.

Northeast Utilities Berlin, CT
Director, Retail Business Strategy - Select Energy 1997 – 2000
Managing Director, Marketing - Select Energy

Directed market strategy, market research, product development, product management, strategic alliance development, retail electric energy supply management and pricing strategy for Northeast Utilities’ unregulated retail energy service company, Select Energy, formed in 1997. Managed the activities of 31 professionals, including six managers. Negotiated a major retail supply agreement with the Massachusetts Municipal Association, which resulted in participation by 120 cities and towns.

Director, Market Pricing & Policy 1995 – 1997
Managed the work of three managers and 24 professionals in all areas of pricing for Northeast Utilities and its operating companies: CL&P, WMECo, PSNH and HWPCo, with revenues totaling over \$3 billion.

Manager, Market Analysis 1990 – 1995
Led market planning and market research functions in developing strategies to prepare NU for the competitive business environment, including sales force program training and development.

Manager, Strategic Analysis & Long Term Resource Planning 1987 – 1990

Held various positions within the Capacity Planning Department 1981 – 1987

United Technologies Corporation Hartford, CT
Analytical Engineer – International Fuel Cells/Pratt & Whitney Aircraft 1977 – 1981

EDUCATION

University of Connecticut <i>Masters of Business Administration</i>	Storrs, CT 1987
Rensselaer Polytechnic Institute – HGC <i>M.S., Mechanical Engineering</i>	Troy, NY 1982
Cooper Union <i>B.E., Mechanical Engineering</i> <i>Elected to Pi Tau Sigma – Mechanical Engineering Honorary Fraternity</i>	New York, NY 1977

PROFESSIONAL ACHIEVEMENTS

- Recipient, **1998 Northeast Utilities Chairman’s Award** for innovation in developing offerings and negotiating with large aggregation groups
- Recipient, **1996 Northeast Utilities Chairman’s Award** and **1996 Retail Business Group’s President’s Award** for the role in leading efforts in the Retail Competition Pilot in New Hampshire
- Recipient, **Northeast Utilities 1994 Retail Business Group’s President’s Award** for developing and successfully implementing special utility contracting efforts
- Licensed **Professional Engineer** - State of Connecticut
- Appointed to the **Electric Power Research Institute (EPRI)** Industrial Business Unit Council
- Participation in the Energy Committee of the Manufacturer’s Alliance of Connecticut, Inc.
- Participation in various **NEPOOL** Committees
- Member of the **Association of Energy Engineers**
- Author of the paper ‘**Fulfilling on the Promises of Deregulation**’
- Speaking experience includes:
 - Numerous electric power presentations at CERA’s Roundtables, CERAWeek and multimedia conference events
 - U.S. Chamber Of Commerce Satellite Seminar Series on Deregulation
 - Massachusetts HEFA sponsored conference on *Organizing Energy Buying Groups*
 - INFOCAST Seminars on *Negotiating Power Contracts*
 - Interview on a nationally syndicated news show, *First Business*, on energy deregulation

Alvaro E. Pereira, Ph.D.

Managing Consultant

Alvaro Pereira is an accomplished energy professional with over 15 years of experience in economic, technical, and policy analysis with expertise in rate design, power markets, and climate change policy. Dr. Pereira joined La Capra Associates in 2008, following nearly a decade with the Massachusetts Department of Energy Resources (DOER) as the head of a group responsible for economic and technical analyses of policies, programs, and regulatory filings. At La Capra Associates, he works in a variety of areas including procurement, renewable energy project analysis and pro forma development, and analyses of energy and capacity market rules, prices, and performance. Dr. Pereira is an experienced expert witness, having testified on various occasions before regulatory commissions, and he has provided expert-witness research to support winning arguments in cases involving environmental quality and demand resources. Dr. Pereira also has expertise in rate design and analysis, demand side management (DSM) programs, and economic impact modeling and forecasting. He has an M.S. in Transportation and a Ph.D. in Urban and Regional Economics and Studies, both from M.I.T.; and two bachelor degrees in Economics and Finance from UMass Amherst.

SELECTED PROFESSIONAL EXPERIENCE

Renewables/RGGI

- Co-authored report on the hedge value of offshore wind resources in Maryland. Work applied portfolio theory by examining offshore wind's price variability compared to non-renewable generation options and considering wind's price covariance with fossil-fueled generators to document price-related benefits.
- Provided analytical support for rate impact calculation of offshore wind legislation for the Maryland Energy Administration.
- Provided advice regarding market price/modeling and economic cost/benefit analysis to the New Jersey Board of Public Utilities in support of development of rules and regulations for the Offshore Wind Renewable Energy Credit (REC) program.
- Co-authored report on Delmarva Power's request for approval of solar REC contracts for the Delaware Public Service Commission Staff. Examined financial feasibility and underlying revenue/cost data of a 10 MW solar farm for reasonableness and public interest.
- Currently providing NEPOOL-GIS third-party verification services for NEPOOL-GIS for hydroelectric, landfill gas, and wind facilities.
- Provided technical and market advice and wrote portions of the proposal for a 220-MW Maine-based wind farm submitted to the Massachusetts' utilities request for proposals for long-term supply and RECs. Played a similar role in support of registration of an 80-MW Vermont-based wind farm for qualification in the ISO-NE forward capacity market.
- Evaluated the financial feasibility of a proposed offshore wind installation and shrouded turbine wind facility in Hull, Massachusetts, as well as for solar installations for a number of clients. Forecasted and analyzed different revenue streams (energy, renewable energy certificates, and capacity) and examined financing options, while incorporating new federal and state incentive programs and policies.
- Researched forward capacity market rules in New England regarding qualification requirements, auction administration, financial assurance, and resource availability adjustments as regards to renewable resources and other intermittent generators. Co-authored study that

examined the feasibility and impacts of restricting imports of renewable generation into New England and for participation in the Massachusetts RPS.

- Co-authored Massachusetts regulations for state auction of Regional Greenhouse Gas Initiative (RGGI) CO₂ allowances. *Note:* Massachusetts was the first state to draft regulations related to auctioning of carbon allowances.
- Supervised the economic modeling and impact analysis of changes in regional energy systems, including the expansion of renewable and DSM activities, due to the establishment of a regional cap and trade system for carbon emissions through the RGGI program. This work led to ratification and approval of the cap and trade system by a majority of the Northeastern states.

Procurement/Market Analysis

- Provided research and wrote portions of the Maryland Energy Administration's comments submitted to the Maryland Public Service Commission proceeding on RFPs for generation capacity resources under long-term contracts (Case No. 9214).
- Providing ongoing procurement support to a number of clients including Amtrak and the Massachusetts Water Resources Authority. Supported and conducted numerous solicitations, ranging from 5 MW to 100 MW. Also providing expert advice regarding participation (load and generation assets) in wholesale energy, capacity, and reserve markets.
- Forecasted capacity market prices (in New England, New York, and PJM) for use in project evaluation and impacts on retail rates. Included discussion of bidding strategies for generators given different projections for auction clearing prices. Forecast work included determination of future implementation levels of energy efficiency and other demand-side resources as capacity resources.
- Assisted in writing expert testimony assessing the impacts of wholesale congestion costs on Pennsylvania default service customers. Investigated market mechanisms for financial transmission rights and made recommendations concerning procurement of relevant hedging products.
- Participated in statewide procurement of electric, gas, and petroleum products for Commonwealth of Massachusetts agencies and facilities. Forecasted gas and electric prices for use in procurement decisions.
- Managed procurement of long-term renewable electricity for use by Commonwealth agencies and facilities. Calculated and compared costs of long-term renewable power versus short-term brown power procurements to inform state agency budgets.
- Managed technical assistance to municipalities seeking to aggregate their customers for purposes of procuring electricity.

Demand Side Management

- Reviewed the energy efficiency plans and underlying testimonies of PPL and PECO in proceedings before the Pennsylvania Public Utility Commission in support of testimony evaluating the costs and benefits of plan components.
- Designed time-of-use rates for municipal utilities in order to provide incentives for reductions during summer peak. Calculated potential impacts of dynamic rates on both capacity payments by the utilities and bill savings to customers.
- Enrolled demand-side resources (energy efficiency and distributed generation) of various Commonwealth agencies into the New England Forward Capacity Market. Wrote monitoring and verification plans for a variety of demand-side resources.

- Lead author on annual report for Massachusetts that chronicled the cost-effectiveness, customer allocation of funds, short and long-term savings goals and the development of a competitive market for energy efficiency services.
- Developed modeling approach and methodology to estimating the energy system and economic impacts of DSM activities conducted in the Commonwealth.

Expert Witness

- Testified (direct) before the Massachusetts Department of Public Utilities on behalf of the Massachusetts Attorney General regarding the joint petition for approval of a merger between NSTAR and Northeast Utilities (*D.P.U. 10-170, May 20, 2011.*)
- Testified before the Maryland Public Service Commission on behalf of the Maryland Energy Administration regarding reliability pricing model and the 2013/14 delivery year base residual auction results (*Administrative Docket PC22, October 15, 2010.*)
- Testified (direct) before the Massachusetts Department of Public Utilities on behalf of the Massachusetts Attorney General regarding the request for a change in distribution rates by National Grid (*D.P.U. 10-55, June 28, 2010.*)
- Testified (direct) before the Massachusetts Department of Public Utilities on behalf of the Massachusetts Attorney General regarding the proposed solar program filed under the Green Communities Act by National Grid (*D.P.U. 09-38, August 2009.*)
- Testified (direct) before the Massachusetts Department of Public Utilities on behalf of the Massachusetts Attorney General regarding the proposed solar program filed under the Green Communities Act by Western Massachusetts Electric Company (*D.P.U. 09-05, July 2009.*)
- Testified before the Massachusetts Department of Public Utilities on behalf of the Massachusetts DOER regarding rate structures that will promote efficient deployment of demand resources. (*D.P.U. 07-50, October 2007.*)
- Testified (direct and surrebuttal) before the Massachusetts Department of Telecommunications and Energy on behalf of the Massachusetts DOER regarding the performance-based rates and earnings sharing mechanism proposed by Bay State Gas Company. (*D.T.E. 05-27, July 2005.*)
- Testified (direct) before the Massachusetts Department of Telecommunications and Energy on behalf of the Massachusetts DOER regarding the appropriateness of standby distribution rates proposed by NSTAR Electric. (*D.T.E. 03-121, March 2004.*)

Policy and Planning Analysis

- Authored study for the Massachusetts Department of Energy Resources regarding the costs and benefits of municipalization of utility-owned distribution and non-PTF transmission assets. Examined potential impacts on reliability, utility operations and revenues, municipal taxes, electricity rates, financing, energy efficiency programs, and low-income customers.
- Conducted analysis of state energy entities in Connecticut in terms of structure and functional roles. Performed survey of other states and compared and contrasted alternative structures with existing state structure. Wrote sections of Phase I report describing results of this work. Contributed to Phase II report that recommended changes to agency structure and roles, including analysis of a power authority option.
- Contributed to all phases of proceeding before Connecticut Siting Council regarding the 2008 Forecasts of Load and Resources. Prepared discovery and wrote comments to draft report. Recommended changes to promote consistency between forecast and 2008 Integrated Resource

Plan that was in review and to clarify assumptions underlying different utilities' forecast for conservation and load management programs

- Wrote appendix detailing existing procurement processes and programs available to Connecticut policymakers. Appendix served as component of La Capra Associates' review of the 2008 Integrated Resource Plan submitted by the utilities.

EMPLOYMENT HISTORY

La Capra Associates, Inc.	Boston, MA
<i>Managing Consultant</i>	June 2011 – Present
<i>Senior Consultant/Consultant</i>	2008 – May 2011
Massachusetts Division of Energy Resources	Boston, MA
<i>Manager, Energy Supply & Pricing Group (December 1999 – 2008)</i>	1999 – 2008
<i>Senior Economist (March 1999 – November 1999)</i>	
Massachusetts Institute of Technology	Cambridge, MA
<i>Lecturer in the Department of Civil Environmental Engineering</i>	1998 – 1999
Independent Consultant	Somerset, MA
<i>Economist and Data Modeler</i>	1998
Massachusetts Institute of Technology	Cambridge, MA
<i>Visiting Lecturer in the Department of Urban Studies and Planning</i>	1997 – 1998
<i>Research Associate, Department of Urban Studies and Planning (September 1991 – August 1997)</i>	
<i>Research Assistant, Department of Civil Engineering (September 1989 – August 1991)</i>	

EDUCATION

Massachusetts Institute of Technology	Cambridge, MA
<i>Ph.D., Urban and Regional Economics and Studies</i>	1997
<i>M.S., Transportation</i>	1991
University of Massachusetts	Amherst, MA
<i>B.B.A., Finance (Summa Cum Laude)</i>	1989
<i>A.B., Economics (Summa Cum Laude)</i>	1989

PROFESSIONAL TRAINING & SKILLS

Proficient in STATISTICA, Forecast Pro, and comparable statistical analysis programs, tsMetrix and comparable neural network programs, REMI and comparable economic-modeling packages, ENERGY2020 and comparable energy market simulation modeling programs. Familiar with C programming language and Visual Basic. Fluent in Portuguese. Working knowledge of Spanish.

RELEVANT PUBLICATIONS, PRESENTATIONS & CONFERENCES

Publications

“Electricity Price, Reliability and Markets Report 2005.” A Report to the Great and General Court on the Status of Restructured Electricity Markets in Massachusetts. Commonwealth of Massachusetts, December 2006 (lead author).

“Electricity Price, Reliability and Markets Report 2002-2004.” A Report to the Great and General Court on the Status of Restructured Electricity Markets in Massachusetts. Commonwealth of Massachusetts, Spring 2006 (lead author).

“Meeting New England’s Future Natural Gas Demands: Nine Scenarios and Their Impacts.” A Report to the New England Governors, Boston, Massachusetts, March 2005 (lead author).

“2002 Energy Efficiency Activities.” An Annual Report to the Great and General Court on the Status of Energy Efficiency Activities in Massachusetts. Commonwealth of Massachusetts, Summer 2004 (lead author).

“2001 Energy Efficiency Activities.” An Annual Report to the Great and General Court on the Status of Energy Efficiency Activities in Massachusetts. Commonwealth of Massachusetts, Summer 2003 (lead author).

“Economic Development of the Boston Harbor: Informing the Process.” Written for Boston Harbor Conference, May 11, 1998.

“Regional Economic Modeling and the REMI Model Evaluation.” Commissioned Manuscript for Appalachian Regional Commission, September 4, 1998 (co-author).

“Transportation Policy and the 1990 Clean Air Act.” In Research in Urban Economics, New Urban Strategies in Advanced Regional Economies, 1996 (co-author).

“Regional Rail Planning in New England.” Proceedings of the Transportation Research Board, 1994 (co-author).

Presentations & Conferences

“RGGI Auction Process.” Presentation to RGGI Implementation at the State Level: Regulations, Requirements & Strategies, Northeast Energy and Commerce Association Workshop, June 19, 2008, Boston, MA.

“Meeting New England’s Future Natural Gas Demand.” Presentation to the Center for LNG & U.S. Energy Association, LNG Conference, June 16, 2005, National Press Club, Washington, D.C.

“The Intradependence of Natural Gas & Electricity Markets in New England.” Presentation to Northeast Energy Efficiency Council and the Association of Energy Service Professionals Annual Conference, October 25, 2004, Marlboro, Massachusetts.

“Retail Treatment of Zonal Generation Prices in Massachusetts.” Presentation to the Massachusetts Electric Restructuring Roundtable, September 13, 2002, Boston, Massachusetts.

“Future of Retail Competition in Massachusetts, Just the Facts, Massachusetts.” Presentation to the Massachusetts Electric Restructuring Roundtable, January 18, 2002, Boston, Massachusetts.

“Developing an Effective Demand Response.” Presentation to the Electric Power Supply Association State Issues and Membership Meeting, July 24, 2001, Washington, D.C.

“Emergency Prevention, Monitoring, and Communication.” Presentation to the New England Disaster Recovery eXchange Meeting, June 13, 2001, Boston, Massachusetts.

“Logistics and Transportation Use in the Chicago Metalworking Sector: Implications for Transportation Planning.” Presentation to the 43rd North American Meeting of the Regional Science Association International, November 16, 1996, Washington, D.C.

“A Study of STAA Truck Safety in New England.” Presentation to a Conference of the New England Transportation Infrastructure Research Programs, June 14, 1993, The New England Center, Durham, New Hampshire.

ARTHUR FREITAS

Senior Consultant

Arthur Freitas, one of our Senior Consultants, is an economist with broad experience in many aspects of the electric and gas industries. Mr. Freitas leads La Capra Associates' Market Analytics team which is responsible for maintaining La Capra Associates' wholesale power market model and wholesale market outlook. He has strong experience in market design, market analysis, and power system dispatch analysis, and has been responsible for projecting power costs for a number of clients.

Mr. Freitas's experience includes cost of service analysis for natural gas and electric utilities, rate design analysis, unbundling analysis, natural gas and electric market price forecasting, retail electric and natural gas market analysis, and energy planning and procurement for both utilities and end users, and he has testified in New Hampshire and Massachusetts. He recently updated and enhanced our allocated cost of service model. Since joining La Capra Associates in 2000, Mr. Freitas has assisted in a number of regulatory proceedings, which include electric and natural gas utility rate cases, electric restructuring hearings, utility prudence reviews, wholesale and retail power procurement, and utility portfolio analysis and risk management.

RELEVANT EXPERIENCE

Market Analysis

- Develops and maintains, on a continuous basis, La Capra's Electric Market Model which is used to support the analysis for numerous client projects. These duties include frequent monitoring of fuel prices, generation and transmission additions or retirements, load forecast changes, and market rule changes. Also responsible for reflecting any identified changes in the market model.
- Prepared and delivered a presentation on current and developing New England market rules to a market participant seeking to acquire over 2,000MW of generating assets in New England. Provided advice on revenue potential and market risk of the assets which was used to inform the client's view of the value of the assets.
- Evaluated the market revenue outlook of two hydroelectric facilities in New York on behalf of a national power generation and marketing company. The analysis performed included modeling the electric production from the facilities for use in La Capra's Northeast Market Model, running the simulation model to forecast wholesale market prices and net revenues to the facilities. The project also included a forecast of revenues to the facilities from participation in the New York ICAP market.

- Conducted a wholesale market price forecast of a number of regions in New England on behalf of a renewable resource developer. The forecast involved projecting load and fuel prices in the region to use as inputs to the La Capra Electric Market Model, running the model, processing the output, and presenting the results to the client in a written report. The forecast also included a projection of ICAP market prices in New England under the proposed Locational ICAP market.

Expert Witness Analysis

- Performed a detailed examination of the planning and procurement activities that occurred in 2001 and 2002 by the California Department of Water Resources. Assisted in the formation of audit reports on behalf of the California Bureau of State Audits.
- Assisted in planning and performing an audit of a power contract for a Michigan utility. Issues examined included market valuation of potential sales, proper treatment of a pumped storage unit and validation of commitment/dispatch logic. Project also involved developing a thorough understanding of the workings of the MISO markets and the manner in which the utility and the merchant generator interact in the markets.
- Conducted an analysis of San Diego Gas & Electric's participation in the California PX Block Forward Markets during the Fall 1999 to Summer 2000 period. Assisted in the formation of testimony presented on behalf of the California Office of the Ratepayer Advocate before the California PUC.
- Assisted in a review of the prudence of the power planning and procurement strategy and activities of PacifiCorp on behalf of Wyoming industrial consumers. Conducted analysis on appropriate procurement strategies and assisted in the development of testimony presented before the Wyoming Public Utilities Commission
- Conducted analysis on appropriate procurement strategies and assisted in the development of testimony presented before the Nevada Public Utilities Commission in a review of the prudence of the power planning and procurement strategy and activities of Nevada Power Company.

Natural Gas and Electric: Planning and Procurement

- Analyzes, on an ongoing basis, retail electric and natural gas supply transactions in various states on behalf of the National Railroad Passenger Corporation (Amtrak). Evaluates whether to obtain electric and natural gas service from the regulated utility or from a competitive supplier, to determine the most cost effective option for Amtrak's energy needs.
- Participates in the planning and procurement activities of a number of small New England utilities (Littleton (NH) Water and Light Department, Washington (VT) Electric Cooperative, Groton (CT) Utilities). This involves forecasts of need, analysis of current resource portfolio with an emphasis on minimizing power cost risk, preparing competitive bidding solicitations for resources and evaluating and negotiating with suppliers.

- Played a key role in assisting the Massachusetts Water Resources Authority (MWRA) in obtaining an electric power supply for its wastewater treatment plant in Boston Harbor. Analysis included estimating the cost savings of competitive electric supply and examining the best method to utilize MWRA's on-site generation resources to maximize the value of the generation resources.
- Assisted in the analysis for a long range integrated resource plan for a number of electric utilities in Vermont. Evaluated the costs of a number of power supply portfolios under various market conditions.
- Assists a Vermont electric cooperative in preparing short term and long term power cost budgets. This involves forecasting load and wholesale market prices, modeling costs of current resource portfolio as well as coordinating on procurement activities to accurately represent the future costs of newly procured resources.

Cost Allocation and Rate Design

- Performs, on a continuous basis, all aspects of work that relates to planning and rates for a small Massachusetts natural gas utility. This includes preparing cost of service studies and rate designs, preparing semi-annual Cost of Gas Adjustment filings and annual Cost of Gas Reconciliation filings, preparing and supporting before the regulator Long Range Forecast and Supply Plans, preparing and supporting annual Performance Based Ratemaking filings, conducts competitive solicitations for gas supply.
- Assisted in the development of a revenue neutral cost of service study and rate design for a small Vermont electric cooperative. Work included load research, developing billing determinants, developing proof of revenues, developing the cost of service model and running multiple rate designs to evaluate rate levels and customer impacts under various rate design principles and policy goals. Also assisted in drafting sections of testimony in support of the rate design.
- Worked with a Massachusetts municipal electric utility in the development of new rates intended to recover the costs of a new power supply agreement. Work included forecasting power costs, developing a power cost adjuster, allocating the substantial power cost increase to customers in an equitable manner and designing rates in a manner that did not overly burden any one segment of customers.
- Assisted in the development of a cost of service study and rate design for a Connecticut municipal electric utility. Work included reviewing the customer base and customer usage. The result was the introduction of a new rate class and a reallocation of costs to all customer classes and a new rate design that better reflected the principle of cost causation. In reallocating costs to customer classes, care was taken observe rate continuity and not create a rate shock to any particular customer segment.

EMPLOYMENT HISTORY

La Capra Associates <i>Senior Consultant</i> <i>Regulatory and Markets Specialist</i>	Boston, MA 2008 – Present May, 2006 – 2007
La Capra Associates <i>Analyst</i>	Boston, MA 2000 – May, 2006
Boston Gas Company <i>Rate Analyst</i>	Boston, MA 1998 – 2000

EDUCATION

Marquette University <i>B.B.A., Economics and Finance</i>	Milwaukee, WI 1994
---	-----------------------

PROFESSIONAL TRAINING

ISO NEW ENGLAND:

Locational Marginal Pricing (LMP 301)	May 2007
Market Interactions (MKT 301)	May 2007
Financial Transmission Rights (FTR 301)	May 2007
Locational Marginal Pricing (LMP 201)	December 2005
Market Interactions (MKT 201)	December 2005
Financial Transmission Rights (FTR 201)	December 2005
Ancillary Service Market Phase One	September 2005
Locational Installed Capacity (LICAP 201)	April 2004

PROSYM USER TRAINING:

Henwood Energy Services Inc.	2002
------------------------------	------

Carolyn Gilbert

Consultant

Carolyn Gilbert joined La Capra Associates in 2007, bringing over nine years of experience in renewable energy, environmental business strategy, and engineering consulting. She is an expert in northeast renewable activities. Her recent work includes renewable energy certificate (REC) price forecasting, renewable energy project evaluation, and renewable energy potential studies. Specifically, she was a contributing author to the renewable energy technical paper for the Connecticut integrated resources plan; has analyzed the renewable energy potential for New England and for a southern state; and has modeled REC prices for Midwestern, New England and New York clients. She has conducted economic analyses of offshore and onshore wind farms, a landfill gas facilities and a large scale solar PV project. She has also provided guidance to NYSERDA on the cost of the customer sited renewable energy program and evaluated the financial impact of solar photovoltaic (PV) installation for commercial customers.

Prior to joining the firm, Ms. Gilbert's strategy consulting experience included work for US and European wind turbine manufacturers including a US market sizing analysis and market entry study and transportation logistical analysis for two different manufacturers. She also assessed environmental market opportunities for a Fortune 500 company. As an environmental engineer at Camp Dresser and McKee, Ms. Gilbert conducted planning and design work for municipal water and wastewater systems. This work included wastewater treatment plant facilities plans and water distribution system master plans. She holds a BE from the Thayer School of Engineering at Dartmouth College and an MBA from the University of Michigan.

RELEVANT EXPERIENCE

Utility Planning

- Contributing author to the renewable energy technical paper for the Connecticut integrated resources plan
- Facilitated discussion and developed analysis around New England renewable supply to lead stakeholders to common understanding of the key renewable issues during the Connecticut Procurement Planning Process.
- Developed an Integrated Resource Plan for a Vermont Utility.
- Created 20-year water system master plans for several municipalities.
- Coordinated function groups for a wastewater treatment facility upgrade planning study and created security plans for water utilities.

Renewable and Clean Energy Expertise

- Analyzed environmental benefits of tidal energy and helped Maine developer understand market value of tidal energy project.
- Testified before the North Carolina Utilities Commission on the potential for biomass energy to satisfy the North Carolina Renewable Energy and Energy Efficiency Portfolio Standard
- Developed estimates of renewable resource potential and costs and analyzed the costs of several resource portfolios for the North Carolina Energy Policy Council as part of La Capra Associates study on the Renewable Energy and Energy Efficiency Portfolio Standard
- Analyzed the rate impact of a proposed renewable portfolio standard for the State of Virginia for Public Policy Virginia
- Evaluated the financial model of a large scale solar project in Maine
- Evaluated wind projects and monitored the RFP process in Oklahoma as an independent evaluator.
- Completed a renewable potential study for a utility client in southern state.
- Updated an extensive study on renewable energy potential and costs to meet current RPS targets for NYSERDA.
- Developed extensive spreadsheet model to determine the bill impact of Solar PV installation for commercial customers in NY.
- Analyzed New England renewable energy supply curve for the Maine Governors task force. Analysis led to wind development goals for the state
- Developed and evaluated financial models for both wind farms and landfill gas facilities
- Published peer reviewed paper illustrating the connection between greenhouse gas reduction and waste reduction.

REC Price Forecasting

- Periodically update La Capra Associates' Renewable Energy Certificate (REC) market forecast for New England and New York
- Estimated the REC price impact of a large New England wind farm on the New England market in future
- Monitor status of renewable energy project and renewable energy policies in the Northeast

EMPLOYMENT HISTORY

La Capra Associates

Consultant

Boston, MA

2007 – present

Independent Consultant Boston, MA

Consultant to Emerging Energy Research and Esty Environmental Partners 2006-2007

- Conducted U.S. market entry study for European wind turbine manufacturer.
- Conducted U.S. logistics and market sizing study to determine manufacturing strategy for European wind manufacturer.
- Evaluated environmental business opportunities and created a new market entry strategy for a Fortune 500 High Tech company.

EMPLOYMENT HISTORY – cont'd.

Environmental Operating Solutions, Inc. Falmouth, MA

Marketing and Business Development Intern 2005

- Spearheaded outreach to potential customers, including online and print journal articles resulting in inquiries from China, India, Spain and the U.S.

GE Energy Wind Americas Tehachapi, CA

Consultant 2005

- Co-led strategic, competitive analysis of transportation in wind turbine industry.

Camp Dresser and McKee, Inc. Cambridge, MA

Environmental Engineer 2000–2004

- Developed and proposed solutions for municipal drinking water and wastewater systems for international engineering consulting firm; and improved water system efficiency through water distribution system modeling.

Tellus Institute Boston, MA

Research Analyst 1998–2000

- Researched benefits of solid waste management alternatives at non-profit.
- Developed model to quantify the environmental and economic impact of waste reduction. Model was valued at \$35,000 and used as an in-kind contribution for projects.

EDUCATION

University of Michigan Ann Arbor, MI

Stephen M. Ross School of Business

Master of Business Administration 2006

- Emphases in Finance and Corporate Strategy
- Member of Community Consulting Club, Net Impact, and Energy Club

Dartmouth College

Hanover, NH

Thayer School of Engineering

Bachelor of Engineering

1998

Dartmouth College

Bachelor of Arts, Engineering and Earth Science

1997

- Participated in the Language Study Abroad program in Mainz, Germany.

AWARDS and ASSOCIATIONS

University of Michigan

- Awarded Zell Lurie Institute Entrepreneurial Scholarship.
- Inducted into Business School Honor Society. (Top 20% of Class.)

Zachary Mayer

Analyst

Zachary Mayer joined La Capra Associates as an Analyst in 2010. Mr. Mayer's work at La Capra Associates includes being an integral part of the Market Analytics team responsible for maintaining and running La Capra Associates' wholesale electricity market model, which employs AURORA, a cutting-edge and reliable electricity market forecasting tool. He is also responsible for producing electricity load forecasts for a variety of the firm's clients, and has experience working with rate cases, integrated resource planning, and analyzing utility-scale Smart Grid solutions.

Mr. Mayer has advanced experience in statistical modeling, including the general linear model, multiple regression, time-series analysis, survival analysis, experimental design, non-parametric statistics, power analysis, and cross-validation. His background in statistics and computer science allows him to implement cutting-edge machine learning algorithms, such as neural networks, support vector machines, decision trees, and various boosting techniques.

Mr. Mayer is an expert in employing statistical tools to such as AURORA, R, Stata, and Excel to solve forecasting and optimization problems in the energy sector. He has also worked extensively with other programming languages and software tools, including Python, SQL, ArcGIS, Crystal Ball, MATLAB, C++, and Visual Basic.

PROFESSIONAL EXPERIENCE

- Produced 30-year electricity load forecasts for all customer classes for a New England utility.
- Directly implemented Smart Grid solutions as part of the operations team at EnerNOC.
- Performed statistical forecasting and risk analysis for a boutique energy-consulting firm.
- Modeled the impacts of proposed time-varying rates on residential electric bills.
- Isolated air conditioning load from whole-building data using regression analysis.
- Modeled ISO New England demand response event likelihood based on weather and electricity load using logistic regression.
- Built a software tool to scrape and analyze energy data from the internet in real time.

EMPLOYMENT HISTORY

La Capra Associates <i>Analyst</i>	Boston, MA <i>2010 – Present</i>
The FSC Group <i>Analyst</i>	San Francisco, CA <i>2009 – 2010</i>
EnerNOC <i>Network Operations Intern</i>	San Francisco, CA <i>2008</i>
ENVIRON International Corp. <i>Intern</i>	Boston, MA <i>2006</i>

EDUCATION

Dartmouth College <i>BA with High Honors in Biology</i>	Hanover, NH <i>2008</i>
---	----------------------------

Dan Koehler

Analyst

Dan Koehler joined La Capra Associates as an Analyst in the beginning of 2010. Mr. Koehler's work at La Capra Associates includes being an integral part of the Market Analytics team responsible for maintaining and running La Capra Associates' wholesale electricity market model. He also provides research and analysis support for various power markets and renewable energy projects in the firm. Mr. Koehler has a background in economics and math, and received his Master's Degree in Public Policy & Management from the University of Southern Maine.

SELECTED PROFESSIONAL EXPERIENCE

- Maintains and runs La Capra Associates' Electric Market Model which is used to support the analysis for numerous client projects. These duties include monitoring and updating New England and New York's generic and renewable generation additions and retirements; and fuel price forecasts.
- Spearheaded a collaborative effort by a group of academic and government researchers to model biomass electricity potential in North Carolina.
- Participated on a team that is modeling, analyzing and preparing a report on the impact of a Renewable Energy and Energy Efficiency Portfolio Standard in North Carolina.
- Maintains a database for New England and New York renewable energy projects.
- Maintains specialized knowledge of New England renewable regulations including the Massachusetts Green Communities Act (2008) and state RPS rules.
- Monitors and maintains historical and future REC prices for New England.
- Monitors developments in the regulation of greenhouse gas emissions.
- Generates quarterly memo on the status of the New England REC market for a Vermont electric cooperative.

EMPLOYMENT HISTORY

La Capra Associates, Inc. <i>Analyst</i>	Boston, MA 2010 – Present
Kennebec Valley Organization <i>Founding Director</i>	Waterville, ME 2003 – 2009
Merrimack Valley Project <i>Apprentice Organizer</i>	Lawrence, MA 2003

EDUCATION

University of Southern Maine <i>Master of Public Policy and Management</i>	Portland, ME <i>Dec. 2010 (expected)</i>
Yale University <i>BA (Cum Laude) with Major in Applied Mathematics</i>	New Haven, CT 2000

Appendix B

La Capra Associates

CONFIDENTIAL BILLING RATES

La Capra Associates Billing Rates by Title

CONFIDENTIAL

NAME	TITLE	RATE
Dan Peaco	President	\$275
Richard Hahn	Principal Consultant	\$250
John Athas	Principal Consultant	\$250
Lee Smith	Managing Consultant	\$225
Stan Faryniarz	Managing Consultant	\$225
Alvaro Pereira	Managing Consultant	\$225
Bijoy Chatt	Senior Consultant	\$190
Art Freitas	Senior Consultant	\$190
Doug A. Smith	Senior Consultant	\$190
Patty Richards	Senior Consultant	\$190
Mary Neal	Consultant	\$165
Melissa Whitten	Consultant	\$165
Elizabeth Quinlan	Consultant	\$165
Carrie Gilbert	Consultant	\$165
Alex Cochis	Consultant	\$165
Barbara Stoddard	Consultant	\$165
Jeff Bower	Analyst	\$120
Dan Koehler	Analyst	\$120
Zach Mayer	Analyst	\$120
Amanda Morrison	Assistant	\$65
Brooks Winner	Assistant	\$65

Appendix C

La Capra Associates

ELECTRONIC COPY OF THE PROPOSAL

ATTACHED CD (WITH ORIGINAL)