

ROBERT PATRYLAK

Managing Director

*Strategic Resource
Advisory and Planning,
Market Assessment &
Asset Valuation,
Transmission Planning*

Education

M.B.A, Accounting, St. Joseph's
University's Erivan K. Haub
School of Business
B.S. Mechanical Engineering,
Pennsylvania State University

Professional Registration

Engineer In Training Certificate,
1988, Pennsylvania

Total Years Experience

22

Joined Black & Veatch

2010

Language Capabilities

English

More than 23 years of energy industry experience with more than half of that time working for both a gas and electric utility or a trading and risk management company. Mr. Patrylak currently leads Black & Veatch's Strategic Resource Planning Service Line under the Management Consulting Strategy practice. Responsible for oversight and delivery, the service line focuses on integrated resource planning (IRP) to both the electric and natural gas sectors and encompasses such services as Portfolio and Asset (Generation and Transmission) Strategy Advisory, Integrated Resource Planning, as well as Power Procurement Strategy and Implementation. He is also an advisor supporting the Asset Valuation and Due Diligence service lines. Prior to Black & Veatch, Mr. Patrylak led and directed R. W. Beck/SAIC's Energy Markets Consulting Practice. The practice consisted sub practices of Power Market Advisory and Asset Valuation, Transmission Planning and Analysis, Fuels Strategy and Analytics, Strategic Resource Planning and Risk Management. Prior to that, Mr. Patrylak led and directed the New Energy Associates/Ventyx consulting/advisors organization, focusing on resource and supply planning/integrated resource planning, RTO market design and implementation, LMP market advisory, trading operations and strategy development, asset valuation, as well as energy procurement strategy and implementation. The group leveraged the Strategist IRP software as well as PROMOD IV. Mr. Patrylak also held leadership roles and gained energy experience through his previous positions at The Energy Authority where he established and oversaw the Mid-West ISO trading desk as well as transmission and trading strategy analytics; At Navigant Consulting Inc., he lead the RTO Markets sub practice and developed an expertise in resource planning and project implementation; and at PECO Energy Company where he held leadership roles in various business units including nuclear generation, gas operations and distribution as well as electric transmission & distribution. Mr. Patrylak holds a B.S. in Mechanical Engineering from Pennsylvania State University and an M.B.A. from St. Joseph's University.

Representative Experience

*Speaker - EUCI 6th Annual Resource and Supply Planning
Conference, March 23-24, 2010*

Presented on approaches to Integrated Resource Planning.

Bryan Texas Utilities – Power Supply Analysis

Project manager for the team that performed a power supply analysis of certain generation options as part of the utility integrated resource plan.

Texas Nodal Market Benefit/Impact Study

Oversaw the analysis of benefits and risks associated with the upcoming Texas Nodal Market and how it differs from the existing market. Analyzed congestion patterns and their effect on CRR valuations and detailed wind operation effects and the potential economic wind curtailment.

SPP Future Market Design Cost Benefit Analysis

Managed evaluation of various future market design proposals considered at SPP. The study quantified the benefit between alternatives as well as provided a qualitative review of each alternative. Additionally, estimated implementation costs associated with the various market designs considered and managed the review and inclusion of market stakeholders.

Western Area Power Administration Wind Hydro Feasibility Study

Assisted WAPA in completing a study of the economics and operation feasibility of integrating wind energy into the WAPA system in the Upper Great Plains Region. The wind energy would be supplied by new projects built on Native American lands. Under this study, developed detailed market simulations to examine the economic impacts of wind integration in the UGPR region, and the transmission and operational impacts of large scale wind development in the Western control area. This study is overseen by a multi-party stakeholder group, and had direct experience in working successfully with such a group.

MISO/MAPP/SPP Participation Cost Benefit Study for 4 different MAPP Entities

Managed a detailed cost/benefit analysis on behalf of NPPD for decision support in joining the MISO or SPP under various market options. PROMOD IV full transmission logic and the MarketVision data was utilized to quantify the costs/benefits of MISO centralized dispatch versus MAPP balancing authority dispatch. Many company structured scenarios were included.

NPPD Pumped Storage Hydro Facility Economic Benefit Forecast

Managed a detailed cost/benefit analysis of a potential new pumped storage hydro facility on behalf of Nebraska Public Power District. PROMOD IV zonal transmission logic, detailed hourly pumped storage dispatch process, and data was utilized to quantify the benefits to NPPD for the time period of 2015 – 2035. Various scenarios included impact on the pumped storage hydro generator benefit of some or all MAPP members joining the MISO, some MAPP members joining the SPP and others in the MISO, NPPD independent of an ISO, as well as key underlying market drivers such as future gas prices.

Analysis of MISO Congestion for the Illinois Load Auction,

Managed and analyzed congestion and market operation for MISO & PJM footprint hubs and client assets associated with the successful bidding in the Illinois load auction for a large mid-Atlantic utility.

Upper Midwest Transmission Study

Assisted an investor-owned utility in the Upper Midwest in completing an economic transmission planning study consistent with FERC requirements. Provided guidance to the client in establishing the study framework and in completing a detailed technical evaluation of transmission upgrade projects and provided assistance with stakeholder group interactions and debriefing.

SPP Wind Asset Curtailment Projection

Managed and assisted in performance of a nodal simulation of the SPP market with decentralized control area operation and unit commitment. Under the assumption of non-wind priority for transmission and non-economic based curtailments, the maximum potential for hourly curtailments of a specific wind project was estimated for a projected 2009 plant in-service year.

ITC – Kansas Economic Transmission Study,

Managed analysis of a transmission upgrade in the Nebraska/Kansas areas in 2011 and 2017. The analysis will include the production cost savings and the LMP benefits for Nebraska companies as well as the SPP members, MISO members, and MAPP member in regards to the benefits that they would receive if the upgrade was made to the system. The analysis is being done by season to represent the changing in transmission limits and load.

Cross Sound Cable Transmission Project Evaluation

Managed and led the effort to perform the feasibility study, develop and issue an RFP solicitation, evaluation and subsequent contract negotiation related to the contracting for the nation's first merchant transmission facility (\$130M project) for the Long Island Power Authority's 300MW Cross Sound Cable.

Neptune Cable Evaluation

Managed and led performance of the feasibility study and RFP solicitation of a 200-600MW capacity merchant transmission cable between Long Island and the PJM.

Resource and Transmission Assessment

Managed or played key roles in more than a dozen merchant generation development project RFP feasibility studies, solicitations, evaluations & subsequent supply contract negotiations (Projects ranged anywhere from \$70M-\$300M) for projects on Long Island.

Previous Employment

R. W. Beck/SAIC, Inc.

Oct 2008 – July 2010

National Director Energy Markets

In joining R.W. Beck in 2008 as National Director of Energy Markets, Mr. Patrylak led the Energy Markets practice area consisting of 35 professionals. The Energy Markets practice included Strategic Resource Planning, Transmission Planning and Analysis, Asset Valuation, Power Market Assessment, Fuels Strategy and Analytics and Risk Management. Mr. Patrylak and his team advised clients on the market opportunities and risks associate with capacity expansion plans by utilizing market analytical tools to evaluate the markets, transmission, technology, industry trends and regulatory policy. As part of the transition to SAIC, the Energy Markets practice has been transitioned into a matrix structured organization. Mr. Patrylak continues to lead, manage and support various engagements in his

area of expertise, energy markets, leveraging the team he had put into place at R. W. Beck related to:

- Evaluation of Impacts of Carbon Legislation and RPS
- Project Feasibility Studies
- Market Assessment and Strategy
- FTR Analysis and Strategy
- Wind Curtailment and Integration Strategy
- Renewable Energy Credit Pricing and Strategy
- Economic Transmission Evaluation
- Strategic Resource Planning
- Asset Valuation
- LMP Market Advisory

***Ventyx (Following acquisition of New Energy Associates by Ventyx)
July 2008 – Oct 2008***

Executive Vice President, Advisors

Responsible to lead and managed the Advisors Business Unit (Consulting) for Ventyx. Business unit and consists of over 60 consulting and data professionals. Responsible for overall business P&L, he and his organization provided energy market expertise to the energy industry encompassing Power Market Assessment (Ventyx Reference Case) and Asset Valuation, Transmission Analysis, Integrated Resource Planning, and Fuel Strategy Advisory. Mr. Patrylak was responsible for the strategic direction of his organization, provides and coordinates the marketing and sales efforts as well as led and supported various project engagements.

***Ventyx, (Following acquisition of New Energy Associates by Ventyx)
Sept 2007 – July 2008***

Senior Vice President, Advisors

Lead and managed the Energy Markets, Strategic Resource Planning, Operations Practice Areas and other consulting expertise with regional responsibility for ERCOT, MISO, MRO, SPP, PJM, NYISO, NE-ISO, and SERC. Additionally, lead and managed the MarketVision Data Organization supporting the Powerbase suite, which supports PROMOD, Strategist and Market Power. Mr. Patrylak provided strategic direction and coordinated marketing and sales efforts as well as managed and supported various projects related to: Market Assessment and Strategy, Asset Valuation, FTR Analysis and Strategy, ISO Cost Benefit Analysis, Wind curtailment and integration strategy, Renewable Portfolio Strategy, Economic Transmission Evaluation, and Strategic Planning. During his tenure, Mr. Patrylak transitioned the NewEnergy Associates/Ventyx consulting organization to a group of industry thought leaders with capabilities to manage large, complex and visible projects such as:

- SPP RTO Market Design Study
- Eastern Wind and Transmission Integration Study
- Nebraska Wind Integration Study
- Midwest Transmission Business Strategy Analysis

- WAPA Wind Integration Study
- OHIO PUC Demand Response/Energy Efficiency Study
- Assisted several MRO companies in strategically analyzing moving to SPP, MISO or remaining in MRO.

*New Energy Associates
Jan 2006 – Sept 2007*

Vice President of Consulting & Data

Responsible to lead and manage the consulting and data organization as well as support various engagements in his area of expertise, energy markets. In more than doubling the practice size, Mr. Patrylak and his team delivered projects to clients related to:

- Project Feasibility Studies
- Market Assessment and Strategy
- FTR Analysis and Strategy
- Wind Curtailment and Integration Strategy
- Economic Transmission Evaluation
- Strategic Resource Planning
- Asset Valuation
- LMP Market Advisory

*The Energy Authority
Apr 2005 – Jan 2006*

Manager, Strategy Development

Responsible to start-up and direct a group of power traders and analysts to develop short term strategies who analyze the market to conduct purchase and sales transactions that increase margin and lower power costs, while minimizing risk. Work closely with marketing managers as well as the term and hourly traders to bridge the gap between the longer term strategies and the shorter term trading functions. Directs ISO Day-Ahead trading functions and communicates these strategies to both term and hourly trading, who execute them as part of a comprehensive plan. Responsible for the design, implementation and maintenance of the necessary measurement and monitoring processes that measure strategy effectiveness. Responsible to manage trading of all MISO client assets.

*The Energy Authority
Jan 2003 – Apr 2005*

Power Market Strategist

Responsible for overseeing the start-up and integration of the Midwest ISO trading desk. Actively monitor and participate in the development of RTO/ISO market rules at the MISO, SPP and various other developing markets to prepare an energy marketing organization for trading in the new Midwest ISO market. Manage selection and integration of tools and models; develop and implement workforce training, development business processes, practices and procedures for managing market risk in developing market strategies to trade power in the new market.

Navigant Consulting, Inc.

Sept 1998 - Sept 2002

Principal

Responsible for marketing services, negotiating terms and leading teams in providing management consulting services to our clients. My primary focus was to assist senior and middle management executives in best positioning their organizations for the changing market environment. During my tenure at Navigant, I also co-headed a practice area for the firm focused on monitoring the development of RTO and ISO markets as well as:

- Managed and lead the effort to develop and issue the an RFP solicitation, evaluation and subsequent contract negotiation related to the contracting for the nation's first merchant transmission facility (\$130M project) for the Long Island Power Authority's 300MW Cross Sound Cable
- Managed or played key roles in more than a dozen merchant generation development project RFP solicitations & subsequent supply contract negotiations (Projects ranged anywhere from \$70M-\$300M) for projects on Long Island
- Managed and lead RFP solicitation of a 200-600MW capacity merchant transmission cable between Long Island and the PJM
- Developed business strategy for generation business
- Developed business profiles for new business units
- Performed business/operations assessment for utility for increasing efficiencies & reduced costs
- Oversaw implementation of a major capital spending process
- Supported and managed power supply solicitations
- Performed comparative analysis of the US electric wholesale markets
- Participated in development of business case and strategy for start-up utility
- Oversaw implementation of cost cutting/improved efficiency supply chain initiatives
- Oversaw client participation in an open season process for merchant transmission facilities

PECO Energy Company

Aug 1988 – Sept 1998

Resource & Project Manager (Oct 1997 - Sept 1998)

Managed a Regional work team of 160 personnel in a manner that maximized the productivity of field resources in executing the region's work plan. This involved tight coordination of numerous support groups and controls over the scheduled workload to ensure crisp, deliberate hand-offs to the field for execution of work to maximize overall process efficiency.

Re-Engineering Task Force Manager (Jun 1997 – Oct 1997)

As part of a six-member task force representing the local Distribution Company, was responsible for the assessment, re-engineering and documentation of the work management process. Played a key role in coordinating and leading focus groups consisting of a broad cross-section of individuals across the company. This initiative streamlined the existing process and was successfully implemented in October 1997.

Work Management Supervisor (Jan 1997 – Oct 1997)

Managed a group of seven in directing and leading the region's work management process. This included the development of multi-year forecasts and the yearly work plan to support development of the region's capital and operating budget, as well as oversee the prioritization and scheduling of regional resources to execute the region's workload.

Supervisor of Maintenance Planning (Sep 1996 –Jan 1997)

Concurrently, while managing the "RSR Express", I led a group of 11 planners and one support person for the Distribution Maintenance Group in overseeing the performance of job planning functions for the region.

Project Manager - Major Capital Projects (Mar 1996 -Jun 1997)

Managed a \$5.1 Million company-wide Recloser Project known as the "RSR Express", I organized, managed, and staffed a project team of 20, a Supervisor and 17 linemen and orchestrated a \$2.2 Million savings for the company. This project earned the accolade of the company's highest quality award.

Project Manager - Electric and Gas Operations (May 1992 - Mar 1996)

Managed various Electric and Gas project teams throughout the company, managing budgets ranging from \$1.8 Million to \$3.5 Million. As a Cadre Supervisor for the field offices, was periodically responsible for field office and crew oversight for both aerial line and underground crews in performing maintenance, construction, storm response, or other emergency activities required for system operations.

Surveillance Test Coordinator (July 1990 - May 1992)

Responsible for coordinating the Surveillance Test Group activities and all other performance test groups at the Limerick Nuclear Power Generating Station (LGS) to ensure the testing adherence to the LGS operating license. Interfaced with the highest levels of station management to ensure testing requirements were met prior to any op-con change as well as periodically prove system and equipment operability.

System Engineer (Aug 1988 - July 1990)

Responsible to oversee the proper operation of several power plant systems at LGS during the Unit 1 first operational cycle and refueling outage and during the Unit 2 construction, turnover and initial start-up. Responsibilities included oversight of system operation, maintenance, modifications, construction, and all activities related to the system operability and performance.

Representative Presentations

EUCI 6th Annual Resource and Supply Planning Conference, March 2010 – “Impact of GHG Concerns on Resource Mix, and “Simulating National Energy Policy and its Effect on Resource Planning”

RMEL 2009 Spring Electric Energy Conference, May 2009 - “How are Utilities firming-up Renewables”

2008 EUCI Western Resource Planning Conference, August 2008 – “Wind Feasibility and Transmission Studies”

2008 Ventyx Forum, March 2008 – “FTR Portfolio Analysis”

2008 EUCI Resource & Supply Planning Conference, January 28-29, 2008 – “Designing and Implementing an Request for Proposal for Power Supply Needs”

2006 NewEnergy Associates Forum, March 2006 – “Industry Trends in Energy Markets”

2006 IEEE PES General Meeting, June 2006 – “Valuation Approaches for Financial Transmission Rights”