

ROBERT H. SCHULTE

Principal, Schulte Associates LLC

Summary

An executive management consultant with very diverse skills and experience in energy industry organizational management, corporate strategy, project management, energy supply resource planning, customer energy conservation/demand response program development, marketing and sales, energy storage, rate regulatory affairs, regulatory permitting for large energy facilities and electric distribution planning, engineering, construction and customer service.

Experience

Schulte Associates LLC (SA), Raleigh, North Carolina 1995 to present

SA is an executive management consulting firm with a specialty practice in energy-related industries. SA provides planning, management, reorganization, regulatory and marketing services to firms in energy-related industries. SA's primary focus is improving the operational performance of companies, and developing new company or project initiatives. Examples of SA clients and engagements include:

- *Strategic Development, Innovative Energy Storage Project.* Currently consultant to utilities in the Western United States to evaluate options for combining large quantities of renewable wind energy and bulk energy storage to create a primarily renewable but fully-dispatchable baseload source of electric capacity and energy for their customers and as a replacement for existing fossil-fired generation. Results featured at Pennwell Power-Gen International Conference in Las Vegas in December 2015.
 - *Development of Grid-Scale Energy Storage.* Co-author with Ingrid Bjorklund of the paper: "Market and Tariff Challenges to Electric Grid-Level Energy Storage Enabling Renewables in RTO/ISO Markets". Paper describes challenges for grid-level storage owners in monetizing the benefits storage provides to the grid, and proposes solutions. Paper available for download at www.schulteassociates.com, and www.bjorklundlaw.com.
 - *Strategic Development, Innovative Energy Storage Project.* Performed resource planning feasibility study in 2013 for the 1200 Megawatt Gregory County pumped hydro storage/wind combination resource project in South Dakota. Developed new planning techniques to enable 2400 MW of installed wind capacity with 1200 MW of pumped storage and 1200 MW of outlet transmission. Study goal was to enable a cost-effective, 100% renewable, fully-dispatchable bulk storage/wind combo resource operating at intermediate or baseload capacity factors with zero CO₂ emissions as an alternative to traditional fossil-fired generation. Study report available for download at www.schulteassociates.com.
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- *Strategic and Organizational Development, Innovative Energy Storage Project.* Retained as contract Project Manager/Executive Director for the Iowa Stored Energy Park (ISEP), a proposed, 270 Megawatt, \$400 million compressed air energy storage project to be located near Des Moines, Iowa. Project owner was a group of municipal electric utilities. ISEP would use wind energy and other resources from the regional electric grid during off-peak/low price periods to compress air and store it in an underground aquifer. The air would then be used during weekday peak load/higher price periods to regenerate electricity and sell in the Midwest Independent System Operator (MISO) marketplace. Led due diligence process to evaluate potential viability of project for commercial operation. Lessons-learned are documented in a DOE/Sandia National Labs report at www.lessonsfromiowa.org that has been downloaded to more than 450 locations worldwide.
 - *Strategic and Organizational Assessment, Public Power Agency.* Performed a strategic and organizational assessment for a public power agency serving 12 municipal utilities in the Upper Midwest. Developed an Agenda for Action for the agency board to follow in addressing strategic and organizational opportunities and challenges. Robert was appointed to and completed a multi-year project as Interim Chief Executive Officer (CEO) of the agency to accomplish these actions.
 - *Electric Power Plant Regulatory Permitting.* Provided lead strategic, organizational, regulatory, legislative and communications consulting services for five Minnesota, South Dakota and North Dakota investor-owned and public power utilities in permitting and certificate of need activities in all three states for the Big Stone Unit II project, a 500 to 580 Megawatt supercritical pulverized coal baseload electric generation facility and associated transmission developments in Northeastern South Dakota and Western Minnesota. Secured all necessary permits.
 - *Electric Power Plant Project Development.* Acted as VP-Marketing & Regulatory Affairs for a start-up Minnesota independent power producer (IPP) developing a coal-fueled, 600 Megawatt integrated gasification combined cycle (IGCC) power plant. Performed all regulatory affairs and coordinated all utility marketing and relationship activities. Developed strategies for and managed client participation in multiple utilities' integrated resource plan processes before state Public Utilities Commission. Led development of public interest filing for Commission approval for project to proceed. Routinely represented client and made presentations before major industry conferences and meetings nationwide. Authored article about project published in *Power Engineering International* in January 2005.
 - *Company turnaround--natural gas development.* Performed a corporate operational assessment for the Board of Directors of a natural gas development and production company with a very large lease position (250,000 acres) in southwest Wyoming. Subsequent to the study and at the request of the Board, Bob became interim CEO
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to turn the company around. During the next four months, SA reduced staffing by 50%, brought the company to positive cash flow for the first time in company history, and recruited/hired a permanent CEO. The study also led to replacement or discharge of the company chairman, CFO and other key personnel. The company's stock value subsequently increased more than 100-fold, and is now one of the leading growth energy offerings on the New York Stock Exchange.

- *Business and market planning--environmental services company.* SA performed business and market planning and solutions development for a startup environmental services company. The company offers innovative indoor air quality monitoring and energy conservation services for commercial buildings and schools, with monitoring results displayed over the Internet. SA secured more than \$600,000 in utility, legislative and Department of Energy funding for projects demonstrating this technology in customer facilities, and managed those projects to very successful and innovative conclusions. Projects featured in May 2005 edition of *ASHRAE Journal* nationwide.
- *Business process and management improvement—electric utilities.* SA has performed a wide variety of strategic, business development, process improvement and other projects for cooperative utilities in the Upper Midwest. Robert has performed keynote speeches at cooperative annual meetings and member conferences of multiple generation and transmission cooperatives and distribution cooperatives.
- *Information technology enterprise start-Up.* In 1995, Bob participated in discussions with Andersen Consulting (now called "Accenture") to take the customer system software developed by Andersen for Northern States Power and transform it into a subscription service, offering lower costs and improved system support compared to traditional methods. With Anderson, Bob worked with energy companies across the nation as they prepared their customer information technology capabilities for better customer service, and the new competitive environment. Secured first two utility company sales for the startup enterprise.

Northern States Power Company (NSP), Minneapolis, Minnesota **1979 - 1995**
(Now a part of Xcel Energy)

- *Vice President, Marketing and Customer Service, 1993 - 1995.* Responsible for marketing/sales, customer relations, community affairs, economic development and pricing for one million Minnesota retail electric customers, and customer business operations for 1.3 million gas and electric customers.
 - Led 700 employees with a \$50M/year operating budget and a \$45M/year energy programs budget.
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- Consistently exceeded annual conservation and interruptible load sales goals of more than 130 Megawatts of peak demand impact.
 - Executive Sponsor of a \$50M re-engineering and information technology project to streamline all customer business office processes and replace all customer contact, fulfillment and billing software systems. First full client-server customer system in U.S. for utilities with more than one million customer accounts.
 - Secured regulatory approvals of performance incentive programs worth \$15M in increased annual earnings, and instituted flexible pricing successful in capturing \$9M/year in new electric furnace load.
 - Pioneered customer satisfaction measures and service performance guarantees, which were adopted as corporate-wide goals and are a standard offering at many state utilities today.
 - Vice President, Rates and Corporate Strategy, 1990 - 1993. Responsible for rate regulatory relations in Minnesota, affecting \$1.4 Billion in annual revenues. Also responsible for overall NSP corporate strategy, and served as facilitator and secretary of the NSP Senior Executive Staff.
 - Led team-based development of NSP corporate strategies for the impending deregulated marketplace.
 - Led development of first Integrated Resource Plan (IRP) in Minnesota including, for the first time in NSP history, direct customer input.
 - Facilitated Senior Staff decisions resulting in the original wind energy developments on the Buffalo Ridge in Southwest Minnesota, where more than 1000 Megawatts of wind energy machines are now in operation.
 - General Manager, South Dakota Region, 1988 - 1989. In this capacity was responsible for all operations of the largest electric utility in the state (90,000 customers, 120 employees, \$60M annual revenue). Also responsible for regulatory and legislative relations.
 - Initiated regional business planning and key performance indicators.
 - Led development of Sioux Falls as the site for NSP non-metro region consolidated dispatch center (saving \$300,000/year).
 - Led efforts to secure public and regulatory approval of decommissioning the Pathfinder nuclear power plant.
 - Developed and filed rate case justification that resulted in regulatory approval of \$3M/year in increased revenues.
 - Member of the Boards of Directors of the local Council of the Boy Scouts of America, the United Way, and Sioux Valley Vocational School, and Chairman of the Arthritis Foundation telethon.
 - St. Paul Area Manager, 1986 - 1988. Responsible for electric operations, meter, relay, distribution planning and budgeting for Metro East Region (300,000 customers). He was also responsible for customer service and distribution
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construction for St. Paul (150,000 customers) with 160 employees, a \$16M operating budget, and a \$30M capital budget.

- Negotiated union labor agreements to reorganize the underground and overhead distribution construction, meter, and electric service departments, resulting in operating savings of \$600,000/year.
- Started the St. Paul Meals on Wheels program, which today serves daily noon meals to more than 500 elderly, enabling them to continue to live in their own homes.
- *Distribution Engineering Manager, Minneapolis Division, 1985 - 1986.* Responsible for distribution system planning, budgeting and design for NSP's largest operating division serving 350,000 customers including downtown Minneapolis.
 - Responsible for installation of a 250 Megavolt-ampere (MVA), 115/13.8 KV transformer into NSP's Fifth Street Substation, one of the world's largest underground substations, located in the middle of downtown Minneapolis.
- *Product Development Manager, Electric Marketing, 1982 - 1985.*
 - Led the original development of and state regulatory approval process for ten new energy conservation and demand response programs for NSP customers involving lighting, motors, air conditioning, energy storage, time-of-day pricing and off-peak sales.
 - This represented the start of the statewide Conservation Improvement Program (CIP) effort now in operation throughout Minnesota.
 - Later versions of many of these major programs are still in operation at Xcel Energy today, and are widely copied by utilities in Minnesota and other states.
- *Associate Planning Engineer, Power Supply Planning, 1979 - 1982.* Performed strategic studies, economic analyses and regulatory licensing activities for major coal, natural gas, hydro and renewable energy facilities.
 - Lead analyst for planning, Certificate of Need activities and shared ownership contracts for the 800 Megawatt Sherco Unit #3 coal-fired generating station (now in operation in central Minnesota),
 - Lead analyst for financial analyses leading to the NSP strategic decision to enact large-scale load management (more than 1000 Megawatts of interruptible load under control today).
 - Chairman of the Mid-Continent Area Power Pool (MAPP) Reserve Requirements Task Force, leading analyses supporting the 15% installed generation capacity reserve requirement in the pool.

U.S. Air Force, Kansas City and St. Louis, MO

1975 - 1979

During five years on active duty, served as communications/ electronics engineer and officer for the Air Force Communications Service and Air Weather Service. Held a

series of positions involving procurement and installation of ground navigation systems including radar approach control centers, TACAN, VOR, instrument landing systems and various meteorological sensors. Achieved rank of Captain.

Education

Born and raised in Huron, South Dakota. BS degree in electrical engineering (power systems) and a commission in the United States Air Force from South Dakota State University. During active duty in the Air Force, earned an MS degree in electrical engineering (power systems) from the University of Missouri-Columbia. Graduate work in Business Administration at the University of Minnesota Carlson School of Management.

Personal Information

Bob recently completed 23 years as a member of the Board of Directors of the Northern Star Council of the Boy Scouts of America in Minneapolis and St. Paul, the fourth-largest Boy Scout Council in the U.S. He is a member of the South Dakota State University Foundation Council of Trustees. Bob has four grown children, two grandchildren, and lives in Raleigh, North Carolina.

Contact Information

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