

RESUMES OF KEY PROJECT TEAM

Name:	Donald Harker
Title:	Project Manager

Donald Harker is the founder of DKMT Consulting LLC. His professional career spans more than 30 years in the energy and consulting industries. Mr. Harker has extensive experience in business process improvement. He has led numerous projects involving staffing analysis, critical infrastructure, cost allocation, benchmarking, power plant operations, reliability analysis, asset valuation, and privatization. He holds an MBA from Northwestern University and BS from the US Naval Academy. Experience salient to this engagement includes:

Engagement Manager for developing cost model and historical cost database for NNSA. Engagement focused on identifying synergies obtained through consolidating and modifying contract vehicles for eight government-owned contractor-operated facilities. This engagement included SEB support for a \$22 billion first-of-a-kind government cost-savings procurement.

Engagement Manager to evaluate power supply options for Naval Engineering Facilities Command-Southwest Division. Engagement included the development of a probabilistic decision model and evaluation of legislative initiatives in California.

Developed the cost allocation methodology for unbundling delivery services. Analyzed various A&G cost allocation strategies to support rate filing for the distribution business. Developed client testimony related to A&G cost allocation.

Engagement Manager for privatizing NAVFAC electric, natural gas, water, and wastewater utility systems in the western United States. Responsibilities included market valuations of government assets, O&M cost determinations, performance metrics, development of utility service contracts, sales process management, negotiation support, and bid evaluations.

Engagement Manager for developing methodology and model to evaluate capabilities and vulnerabilities of US Army installations to "island" themselves from utility infrastructure for up to two years.

For Independence Power and Light, (2020), the DKMT Consulting LLC team conducted a high-level review of electric utility operations for Independence Power and Light. Our team used a structured interview process and a standard utility operations model to identify areas for the review. High-level reviews were conducted across the following areas:

- Administration
- Asset Management
- Business Operations
- Construction
- Customer Service
- Environmental
- Generation
- Information Technology
- Operations
- Project and Contractor Management
- Quality Assurance
- Work Management and Maintenance

Our team completed the high-level review on time and within budget, and we were told it has proved extremely useful to IP&L and the City of Independence.

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Name:	Heather Bailey
Title:	Independent Consultant

With nearly 40 years of utility operations, finance, accounting, and auditing experience, Ms. Bailey has worked as a regulator, utility executive, and consultant. She is a respected leader in the industry. She has consulted on numerous issues and has 19 years of managing various operations at one of the largest public power organizations in the country. Ms. Bailey deeply understands the utility industry, and her experience has given her a broad perspective on all aspects of leadership, especially during transitional events. During her career, she served in officer positions on various American Public Power Association committees and frequently spoke at industry conferences. She is a Certified Public Accountant-State of Texas, and holds an MBA from the University of Texas, Austin, Texas, and graduated with honors

As a former utility executive, she provides straightforward, insightful executive coaching services to leaders wanting to take themselves and their organizations to the next level of performance. Throughout her career, she has worked with political organizations and has a proven record of providing vision and collaborating with regulatory and legislative officials on policy issues. She has participated in management audits and performance reviews of other utilities.

Ms. Bailey spent six years helping the City of Boulder, Colorado evaluate and implement a plan for taking over the electric system serving the city and creating a model for the utility of the future. This entailed creating a detailed transition plan, leveraging existing city functions, identifying staffing and resource levels to support innovation, reducing carbon emissions, promoting customer control, and improving resilience. Salient experience for this engagement includes:

Member of the Independence Power and Light management review engagement focused on governance, regulatory compliance, accounting, and communications.

Austin Energy Chief of Staff for Utility General Manager oversees legislative affairs and intergovernmental relations.

Director Navigant Consulting Austin, TX Lead teams of industry experts who provided utility consulting services to public power, investor-owned utilities, renewable energy developers, and independent transmission and generation companies

Lower Colorado River Authority (LCRA) Austin, TX

Executive Director Transmission Services Business Management and Asset Development / Co-Chief Operating Officer for LCRA Transmission Services Company

Executive Director of Corporate Services, Deputy Chief Financial Officer, and Chief Information Officer Held multiple roles of increasing responsibility, including budget oversight of the utility and managing two significant operations, one with an asset value of \$1 billion.

Heather has acquired specialized expertise in several proposed high-priority focus areas throughout her career.

She established and expanded the Project management team for the LCRA transmission company as it grew from an annual \$20 mill capital program to an annual \$200 capital program. She also served as CIO during a period of organizational turmoil and established a new organization and inclusive governance structure. Lastly, she was the Corporate Services executive in charge of back-office support functions such as purchasing, facilities, accounting, finance, etc.

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Name:	Christopher Grier
Title:	Independent Consultant
<p>Christopher Grier has 48 years of operations management and consulting experience in the power and utility industry. Chris worked for 20 years for a large nuclear utility, holding line executive and staff positions. For more than 25 years, Chris has guided or participated in many engagements across a broad spectrum of electric and gas utility issues. Chris maintains deep industry knowledge in business strategy and management, capital and O&M optimization, safety, risk and program management, and compliance across energy supply, engineering, and field operations.</p> <p>Chris holds a Bachelor of Science degree in Nuclear Engineering from Kansas State University, a Master of Science degree in Nuclear Engineering from Northwestern University, and an MM in decision-making and marketing from Northwestern University's Kellogg School of Management. Chris also held a Senior Reactor Operators Certification with the US Nuclear Regulatory Commission, a high voltage operator's certification, and has worked on operations, licensing, and compliance issues with federal, state, and industry organizations</p> <p>In addition to supporting our IPL engagement with distribution systems and generation assessments, his broader experience relevant to this engagement includes the following:</p> <p>Completed, with a focus on energy supply and delivery, over fifty specific assessments and audits of utility plant operations for energy supply (nuclear, thermal, simple cycle and combined cycle gas turbines, hydro, biomass, and solar) and delivery (transmission, distribution, metering, and billing). Chris' work in this area is focused on developing gap analysis against regulatory requirements <u>and/or industry better practice and then developing recommendations that may add immediate accretive value, "quick wins," while identifying longer-term, risk-based strategies to improve operations.</u></p> <p>Operations Based Electric Distribution Audits – Performed an operational audit of line clearance and vegetation management compliance to state utility regulations. Work included reviewing state regulations, internal processes, and controls for preventative maintenance and line clearance operations.</p> <p>Accountable Authority Performance – Assessed the capability and maturity of the governance and skill levels of the environmental and fleet accountable authority to ensure compliance with local, state, and federal compliance requirements. The assessment used a combination of a COSO compliance framework and a management maturity model to assess performance across nine areas.</p> <p>Risk Based Internal Audit Planning – Led the development of a risk based internal audit plan and project management guide for a large interstate utility company. Risks were assessed across all aspects of the enterprise, including shared services, finance, generation (nuclear and fossil operations, maintenance, environmental/safety, and workforce management), energy trading/hedging, energy delivery (including field workforce, customer care/marketing, and revenue cycle), and information technology. Utilized the PWC TeamRisk software, and a web-based survey of over five hundred middle managers was utilized in developing the risk-based plan.</p> <p>Service Delivery Optimization Assessments - Led an assessment of the key drivers or service delivery for a large electric and gas distribution company. The assessment provided the framing for a more extensive service delivery optimization effort to reduce interruption restoration time, work management downtime, and service delivery costs. The analysis included call center and outage management data to help guide new strategic activities to improve customer satisfaction.</p>	

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Name:	Dan Stathos
Title:	Independent Consultant
<p>Dan Stathos has been involved with electric, gas, water, and telephone utilities for over forty-five years, over twenty-five of which have provided consulting for financial and accounting, regulatory and rates, information systems planning and implementation services, and operational improvement. Mr. Stathos has a Bachelor of Business Administration degree from the University of Texas at Austin. He is also a Certified Public Accountant (Retired) in Texas.</p> <p>Mr. Stathos has provided services to Wind Energy Transmission Texas, New Braunfels Utilities, Guam Public Utilities Commission, Virgin Islands Public Service Commission, Independence Power & Light, First Energy, and Empire District Gas Company. His services include accounting, regulatory, management and operational reviews, process improvement, financial modeling, and information technology planning and management.</p> <p>Through his prior experience of over 30 years consulting, Mr. Stathos has assisted municipally owned utilities, public power generation agencies, and electric cooperatives in Texas on a variety of projects, including the valuation of public power ownership to communities in Texas (Austin, San Antonio, Georgetown, College Station, Kerrville) as well as similar services to the Texas Public Power Association. In addition, Mr. Stathos participated in the creation of the Long Island Power Authority in the late 1990s from the then Long Island Lighting Company (LILCO). He has also provided consulting for financial feasibility, accounting and regulatory matters, operational improvements, and information technology planning, implementation, and management to over 100 utilities.</p> <p>As a member of the Independence Power and Light engagement, he opined on the adequacy and organizational support of the client's IT systems and supporting organization. He and Mr. Harker also worked together on an engagement with the University of Illinois Public Works Department to assess its technological and staffing needs for a new IT system and operational process.</p> <p>On behalf of executive management for generation, transmission, and regional water utilities, performed high-level assessments of the telecommunications/information technology environment, providing observations and recommendations relating to telecommunications and IT investment planning, IT governance and portfolio management, and provided strategies for improving operational and financial performance through the leveraging of IT investments.</p> <p>Served as acting CIO for a large public power utility with over 1 million customers, providing strategy development, governance facilitation, outsourced contractor management, and specific project management services as required. Activities included the establishment of a governance structure both internally and with an outsourced IT provider, oversight of selection and implementation of technology to support operations, including GIS, Outage Management, Energy Management, Power Supply Management, Customer Relationship Management, AMI, and Smart Grid</p> <p>Performed an independent review of a large southern California public power agency's information technology organization, emphasizing roles, responsibilities, technology direction, governance, information security, and its ability to provide IT support to various divisions' operations.</p> <p>Served as the project manager and facilitator for large-scale process improvement and information technology systems implementation projects in finance, customer billing, customer relationship management, wholesale power markets, and T&D operations.</p> <p>For a regional wastewater authority, he directed the re-implementation of a failed billing system. This effort included an initial assessment of the project's current state, identifying root causes for the failed implementation, and managing the gathering of data for use in legal action against a Big Four accounting and implementation firm.</p> <p>As an executive for a large public power utility, he managed the information technology function and served as an executive team facilitator to identify innovative technologies and implement technology solutions. Also served as the utility member of a City-wide information technology advisory committee.</p>	

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Ralph Zarumba

ralphzarumba@gmail.com

+1-312-342-4387

Ralph Zarumba is an economist and financial analyst with thirty-eight years of experience. Mr. Zarumba has extensive experience working with publicly owned utilities in the United States, including leading a team advising the Puerto Rico Electric Power Authority during their restructuring (2013-8). His international experience includes fifteen countries, assisting utilities, regulators, customer groups, developers, and other industry participants. He has appeared as an expert witness in regulatory and legal proceedings in over 20 jurisdictions in North America.

REPRESENTATIVE PROJECT EXPERIENCE

Restructuring

- Mr. Zarumba led a team advising the Puerto Rico Electric Power Authority (PREPA) on regulatory, financial, and restructuring issues for 2013-8. Specifically, his team developed long-term financial plans, developed the filing for PREPA's first litigated rate request, and developed a securitization proposal for approximately \$8 billion of legacy debt which was accepted by the regulator and other supporting activities.
- In 2009 the government of Albania sold the electric distribution system to a foreign entity. Mr. Zarumba advised the Albanian regulator and the Government of Albania on various aspects of the transaction after the sale was closed. His support extended from 2009-2015.

Valuations and Estimation of Damages

- On behalf of the Government of the Province of Newfoundland, prepared a valuation of certain hydroelectric generating units expropriated by the Province after the closure of the Abitibi Pulp and Paper Mill.
- Mr. Zarumba has prepared several studies preparing valuations of specific generating assets facing market-based pricing in North America.
- As a contractor to NERA Economics, assisted in preparing a study quantifying the damages associated with an accident at the Hawthorne Generating Station.

Generation Market Analysis

- For a major public power generation, the owner prepared a strategy of internal coal versus natural gas generation dispatch protocols, including the treatment of liquidated damages.

PROFESSIONAL HISTORY

Black & Veatch Global Advisory – 2020-2023

Practice Leader – Electricity & Natural Gas Regulatory

Concentric Energy Advisors, Inc. 2016 – 2020

Vice President

Navigant Consulting 2008-2016

Director

Science Applications International Corporation 2004-2008

Director

Zarumba Consulting 2002-2004

President

Sargent & Lundy Consulting Group 2000-2002

Senior Principal Management Consultant

Analytical Support Network, Inc. 1997-2000

President

Synergic Resources Corporation 1996-1997

Manager, Pricing Practice

San Diego Gas & Electric Company 1994-1994

Senior Analyst

Wisconsin Electric Power Company 1990-1994

Senior Analyst

Eastern Utilities Associates 1988-1990

Analyst 4

Illinois Power Company 1985-1988

Analyst

- On behalf of, Nalcor, Co-authored a report on the feasibility and economics of the proposed development of the Lower Churchill Hydroelectric project.
- Prepared several electric market price forecasts for many regions of the United States and Central America.
- Supported the electric pricing and infrastructure analysis for a Least-Cost Resource Plan for San Diego County.
- Prepared an analysis of the saturation of coal-fired electric generation technology in the Western Electric Coordinating Council.
- Developed a long-run electric generation expansion plan for the Railbelt System in Alaska used in a Department of Energy Study investigating the feasibility of a natural gas pipeline in Alaska.
- Managed a team that prepared a long-term capacity and energy forecast for a medium-sized municipal utility.
- On behalf of Manitowoc Public Utilities prepared a resource plan evaluating various generation expansion options.

Management Audit and Affiliate Code of Conduct

- Led the regulatory and financial review for a management audit of Jersey Central Power & Light on behalf of the New Jersey Board of Public Utilities.
- On behalf of a coalition of marketers and energy service companies, Mr. Zarumba presented testimony before the Illinois Commerce Commission addressing affiliate rules and code of conduct.
- On behalf of a coalition of marketers and energy service companies, Mr. Zarumba presented testimony before the Wisconsin Public Service Commission addressing affiliate rules and code of conduct.

Regulatory Policy

- Prepared a white paper on rate mitigation mechanisms for the Ontario Energy Board.
- On behalf of the Ontario Energy Board, Mr. Zarumba co-authored a study that identified factors that could impede the combination of regulated distributors in that Province.
- On behalf of the Ontario Energy Board, prepared a white paper addressing the apportionment of regulatory commission costs to stakeholders.
- Developed electric regulatory rules for several Southeastern European countries.
- Mr. Zarumba led an effort for the Province of Alberta, which produced a comparison of the cost of providing distribution services for Rural Electric Associations versus Investor-Owned Utilities.

Embedded Cost of Service Analysis

- Sponsored an embedded cost of service study and pricing design for CenterPoint Minnesota Natural Gas.

- Sponsored an embedded cost of service study and pricing design for Liberty Utilities New Brunswick natural gas.
- On behalf of Heritage Gas (Nova Scotia), prepared a cost allocation for a natural gas storage field presented before the Nova Scotia Utility and Review Board.
- Mr. Zarumba provided testimony in the proceedings reviewing the 2014 Nova Scotia Power Cost-of-Service study.
- Mr. Zarumba prepared and sponsored before the FERC and the NYISO a cost-of-service filing supporting a Reliability Must-Run filing on the Cayuga Operating Company.
- Mr. Zarumba provided testimony in the proceedings reviewing the 2014 Nova Scotia Power Cost-of-Service study.

Pricing and Marginal Cost Studies

- On behalf of Enbridge Gas, New Brunswick appeared as an expert witness on marginal cost analysis and its application to pricing in the New Brunswick Power rate request.
- Mr. Zarumba is the principal author and expert witness of an Electric Marginal Cost of Service Study for Montana-Dakota Utilities for their Montana service area.
- On behalf of Bermuda Electric Power Company, prepared a marginal cost of service study, an allocated cost of service study, and a pricing design proposal implementing movement to access charges.
- On behalf of Puerto Rico Electric Power Authority, managed that company's first regulated rate request. It was the witness supporting pricing design, the marginal cost of service, an embedded cost of service study, an electric rating period study, proposals for unbundling tariffs into functional components, and detailed testimony addressing compensation for Distributed Energy Resources.
- As an advisor to the Ontario Energy Board, assisted in developing a proposal to change electric distribution pricing into a fully fixed tariff design and eliminate the volumetric (i.e., KWH. charge) component.
- Prepared a Pricing Strategy for the South Carolina Public Service Company (Santee Cooper).
- Prepared testimony proposing Retail Conjunctive Billing Pricing filed in Illinois and Wisconsin, filed before the Illinois Commerce Commission and the Wisconsin Public Service Commission.
- Negotiated complex service contracts with thermal energy customers, leading to a major expansion of the Wisconsin Electric Steam System.
- Prepared ancillary service pricing proposals based on market-based mechanisms for San Diego Gas and Electric Company.
- Prepared an analysis of pricing mechanisms for optional renewable energy products for a Midwestern public power association.

Revenue Requirements

- Prepared several Cash Working Capital studies for various distributors and transmitters in the Province of Ontario.
- For a confidential client, prepared a benchmarking analysis of the costs of regulatory proceedings associated with introducing new electric generation.
- Managed a project for Commonwealth Edison Company in their Electric Rate Request (Illinois Commerce Commission Docket No. 10-467) in which a Cash Working Capital study was provided.
- Assisted Indianapolis Power & Light in preparing a cost recovery plan for Energy Efficiency and Demand Side Management Expenditures.
- On behalf of the Missouri River Electric Cooperative managed a project team that completed a Remaining Life Study for the Western Minnesota Municipal Power Agency.
- For Heritage Gas (Nova Scotia) prepared a cost allocation for a natural gas storage field presented before the Nova Scotia Utility and Review Board.
- Mr. Zarumba prepared and sponsored before the FERC and the NYISO a cost-of-service filing supporting a Reliability Must-Run filing on the Cayuga Operating Company.
- On behalf of the Ontario Energy Board, prepared a white paper addressing the apportionment of regulatory commission costs to stakeholders.
- Prepared ancillary service pricing proposals based on market-based mechanisms for San Diego Gas and Electric Company.

Electric Transmission

- Assisted the Long Island Power Authority in purchasing distribution, transmission, and regulatory assets and prepared that utility's non-jurisdictional open-access transmission tariff.
- Prepared the pricing portion of a FERC open access tariff (Docket No. ER96-96-43.000) for San Diego Gas and Electric Company; testified on revenue requirements and pricing, including opportunity costs.
- Prepared a Reliability Must-Run for the Cuyahoga Generating Station, filed with the Federal Energy Regulatory Commission and the New York Public Service Commission.

Demand Response

- Assisted the Building Owners and Managers of Chicago (BOMA/Chicago) develop a program where they can bid demand response based ancillary services into the P.J.M. market.
- Prepared a presentation for the Public Utilities Commission of Ohio on Commercial and Industrial Dynamic Pricing and Demand Response in an unregulated regulatory environment.

Merger, Acquisition, and Divestiture

- On behalf of the Minnesota Public Service Commission. Mr. Zarumba co-authored an analysis of the merger savings associated with the proposed Primergy Merger (the proposed combination of Northern States Power and Wisconsin Energy). The analysis included a detailed review of cost savings emanating from the merger and regulatory commitments made by the companies to regulatory authorities in Minnesota.
- For Manitowoc Public Utilities prepared an analysis that evaluated the divestiture of its transmission assets to the American Transmission Company.

International

- Assisted the Israel Public Utility Authority in electric tariff reviews for the Israel Electric Company and the Jerusalem District Electric Company.
- Mr. Zarumba assisted the electric regulator in the North Macedonia with various regulatory issues, including pricing design, revenue requirements, and privatization issues. Included in the assistance was the development of market designs for the electricity sector.
- Completed a tariff implementation plan proposal for the privatization of the distribution companies of the Bulgarian Electric Utility.
- Led a team to implement regulatory procedures and methodology for the electric power industry in Bosnia and Herzegovina.
- Conducted a study of the electric power market in El Salvador including a quantification of the level of generation market power using the Lerner Index.

Experience Tom has more than four decades of experience serving as principal and project manager for electrical engineering projects. He has an extensive background in designing and analyzing low-, medium-, and high-voltage power generation, transmission, and distribution systems including utility, industrial, and commercial systems (600V to 500kV). He has specialized expertise in protective relaying and communication systems. Tom focuses on larger substation, generation, and transmission/distribution projects. Prior to joining Barr, Tom founded Exponential Engineering Company in 1993, leading that firm to provide responsive and personalized service to the electric power industry.

An active and dedicated member of the clean energy technology and renewable energy sectors, Tom served as co-chair of the Colorado Clean Energy Cluster. He stays at the forefront of technological innovation to integrate new technologies into existing systems. He is passionate about keeping power affordable and sustainable by moving existing electric and energy systems toward more distributed, local microgrids and local generation. A leader in the power industry, he is committed to teaching and mentoring clients and employees.

His background and experience include:

- Providing **protective relaying** services for more than three decades for all protective relaying systems manufactured from the 1940's to the present. Work includes design, application, specification, setting, testing, maintenance and training of personnel. Includes specializes in microprocessor relaying systems for generation interconnections, large generators, and transmission lines.
- Managing and designing numerous **transmission line** projects (69kV–345kV) across the U.S. for municipal and rural electric utilities. Responsibilities include electrical design, structure staking, design data preparation, structure mechanical analysis, conductor loading, equipment specification, and construction administration and observation.
- Developing **power system planning studies** that range from two-year construction work plans to 20-year long range plans. Work includes loadflow, short circuit, protective device coordination, sectionalizing, and stability studies for overhead and underground systems through 345kV. More complex analyses include feasibility, system impact, and facilities studies for medium to large generation interconnections to transmission systems; arc flash hazard analyses for enclosed equipment and open-air substations; and modeling and analysis for starting large motors connected to weak systems.
- Designing outdoor, indoor, and GIS **substation projects** (4.16kV–500kV) including station arrangement, grounding, lightning protection, structures and bus, equipment specifications, protective relaying and control schemes, SCADA interface, testing, and checkout. His projects encompass not only new substations but conversions, expansions, and voltage upgrades.
- Providing design and field staking for **distribution lines** (5kV–34.5kV), both overhead and underground. Work includes upgrades/replacements, conversion to three- phase, and new installations.

- Planning and performing field data collection with GPS, constructing GIS databases, and providing finished **electric utility maps**. Includes development of field mapping databases for GPS units, coordination of field crews, data validation, and conversion from various database formats.
- Providing a range of **generation interconnection** services for renewable and battery storage projects ranging from small (1MW) to large (300MW) facilities. Work includes creating interconnection applications, performing system impact and facility studies, designing distribution and transmission interconnections, and creating protective relay settings for interconnection protection.
- Performing distribution and transmission **severance planning** and analysis; cost estimation using system-inventory data; and field-observation condition assessments for severance planning. Work includes overseeing the analysis process, which includes conducting load flow and voltage drop studies for base systems as well as under N-1 conditions.
- **Training** electrical engineers, staff, technicians, and lineworkers through classes and seminars across the U.S. for 25-plus year, in both academic and professional settings. Includes providing complete training in protective relaying application, setting, testing, and maintenance. Relaying topics range from vintage electromechanical through solid-state to microprocessor devices and include substation, transmission, generation, and distribution protection. Other seminar topics include transmission-line design and applying PLS- CADD and PLS-POLE analysis software.
- Providing **expert testimony** related to the design and performance of utility transmission, distribution, and substation facilities. Includes testifying before state utility regulators, arbitration boards, courts of law, city councils, and utility boards.

Education	MBA, University of Colorado, 1981 BS, Electrical Engineering, University of Colorado, 1979
Registration	Professional Engineer (Electrical): Colorado, Alaska, California, Florida, Indiana, Louisiana, Michigan, Nebraska, New Mexico, Texas, Utah, Washington, Wisconsin, Wyoming
Software	ASPEN; SKM; ETAP; PLS-CADD; Mathcad
Affiliations	IEEE Life Member, NSPE, NFPA, Tau Beta Pi

Experience	<p>Darcy has 18 years of electrical engineering and project management experience in transmission and distribution, protective relaying, planning and studies, substations, industrial facilities, and severance analyses for public utilities. Her background and experience include:</p> <ul style="list-style-type: none">▪ Providing engineering services for transmission and distribution line projects designing wood, concrete, and steel transmission lines for 69kV, 115kV, 138kV, and 230kV on single pole or H-frame constructions as well as concrete and steel structures for 115kV lines with distribution underbuilt. Darcy performs analyses on existing lines to determine make-ready requirements for distribution and communication underbuild. She participates in pre- and post-design processes of establishing design criteria, creating staking sheets, selecting economical structure types, analyzing structure strength and performance, and collecting field data.▪ Providing engineering services for protective relaying projects including replacing electromechanical and solid-state relays with microprocessor relay systems in power plants. She develops one-line and three-line drawings, DC schematics, panel layouts, wiring diagrams and relay settings.▪ Performing planning and power-system studies including modeling and analyzing several medium-voltage systems for industrial installations, conducting load-flow and short-circuit studies, creating entire power-system models, and arc-flash hazard analyses.▪ Providing engineering services for 230kV outdoor substation projects, including station arrangement, grounding, lightning protection, structures and bus, equipment specifications, protective relaying and control schemes, SCADA interface, testing and checkout for new substations and expansions.▪ Performing severance analyses, cost estimates using data from the system inventory, and condition assessments based on field observation for severance planning. The analyses included conducting load-flow and voltage-drop studies for a base system and under N-1 conditions.
Education	<p>BS, Electrical Engineering, University of Wyoming, 2004 Minor in business administration</p>
Registration	<p>Professional Engineer: Colorado, Wyoming</p>
Software	<p>PLS-CADD, PLS-POLE, SKM, Milsoft, ASPEN, Mathcad, AutoCAD</p>
Affiliations	<p>IEEE REPC</p>



Chris Lover, CFA

Managing Director

PFM Financial Advisors LLC

Chris Lover joined PFM's Charlotte office in 2010. He works primarily providing strategic, technical and quantitative support for PFM's Public Power and Water & Sewer clients from coast to coast. His duties include structuring, sizing, and pricing new money and refunding municipal bond issues, assessing municipal issuer's outstanding debt and performing analysis of refunding opportunities. Chris has worked with many issuers through the rating process and has assisted many issuers with telling their unique credit story. Chris has been instrumental in bringing a wide-range of transactions (bond transactions to public-private partnerships to renewable energy and prepay transactions) from concept to successful closing. Additionally, Chris has assisted clients with analyzing the operational and financial risks facing a utility to help improve a utility's resiliency.

Since joining PFM, Chris has worked to structure deals for numerous public power and water & sewer entities. These include: Sacramento Municipal Utility District, Gainesville Regional Utilities, DC Water & Sewer Authority, Lansing Board of Water & Light, Indiana Municipal Power Agency, WPPI Energy, Southern Minnesota Municipal Power Agency, Holland Board of Public Works, Grand Haven Board of Light & Power, City Utilities of Springfield (MO), Massachusetts Municipal Wholesale Electric Company, Energy Northwest/Bonneville Power Administration, Independence (MO) Power & Light and Morgantown Utility Board.

Prior to working at PFM, Chris completed 20 years of active service in the Army. He taught economics and corporate finance at the United States Military Academy and spent seven years as a budget analyst in the Pentagon. Additionally, he completed a one-year fellowship at the Office of Management and Budget, providing budgetary analysis to the White House



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Specialties

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Education

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Professional Designations or Licenses

Chartered Financial Analyst
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Started with PFM: 2010

Started in the Field: 1999



Joseph Visalli

Senior Analyst

PFM Financial Advisors LLC

Joseph Visalli is a senior analyst in the firm's Philadelphia office. He provides quantitative financial advisory services to public power issuers. Joseph's duties include structuring, sizing, and pricing new money and refunding bond issues, as well as assessing issuers' outstanding debt and performing analysis of refunding opportunities. He primarily works with issuers in the Midwest and West regions of the United States, including Lansing Board of Water and Light, Grand Haven Board of Light and Power, WPPI Energy and Holland Board of Public Works, among others.



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