

C. James McMahon

Vice President

Juris Doctor
College of William and Mary

MBA
College of William and Mary

BA, Economics
Tufts University

C. James McMahon has been a strategic, economic, and financial consultant to the energy sector for over 20 years, working frequently with diversified energy companies, electric and gas utilities, merchant generators, private equity, and independent system operators. He specializes in strategy, business planning, and transaction support. For utilities, Mr. McMahon has advised on business strategy, integrated resource planning, grid modernization, and resiliency issues. In addition to advising on these topics, Mr. McMahon has supported and filed related testimony in federal and state regulatory settings, including at FERC and with the regulatory commissions of CA, WY, AR, MO, OK, KS, GA, and IN.

Mr. McMahon's energy market-related work has focused on commercial due diligence in electric and gas utility, power plant, and electric transmission assets. He has supported transactions involving more than 500 GW of power plants, and was lead commercial and regulatory consultant in two of the most recent private equity utility transactions. Mr. McMahon also works with ISOs on strategy, planning, and procurement.

Experience

2014 - Present	<i>Vice President</i> , Charles River Associates – Energy Practice
2011 - 2016	<i>Board of Directors</i> , Pennichuck Water Works
2012 - 2014	<i>Director</i> , Black & Veatch - Management Consulting Division
2010 - 2012	<i>Vice President</i> , Siemens Corporation - Management Consulting Division
2009 - 2010	<i>Vice President</i> , Ascend Analytics
2007 - 2009	<i>Principal</i> , Charles River Associates
1998–2007	Navigant Consulting <ul style="list-style-type: none"> 2007 <i>Director</i>, Energy Practice 2005 - 2007 <i>Associate Director</i>, Energy Practice 2003 - 2005 <i>Principal</i>, Energy Practice 2002 - 2003 <i>Senior Engagement Manager</i>, Energy Practice

1998 - 2002 *Senior Consultant*, Energy Practice

Selected Commercial Consulting Experience

For a utility with a significant coal portfolio, Mr. McMahon led the development of an integrated resource plan, including assumptions development, market modeling, stakeholder engagement, and report development.

For an IPP, Mr. McMahon led the annual valuation process for a combined cycle asset located in ERCOT that requires periodic mark-to-market valuation.

For an infrastructure fund, Mr. McMahon led a commercial analysis around a potential new combined cycle power plant development site located in PJM.

For an infrastructure fund, Mr. McMahon led a commercial analysis of the expected performance of a combined cycle power plant located in PJM, with consideration for a potential competitive generating asset development on the same price node.

For a turbine manufacturer and owner of power generation assets in the U.S., Mr. McMahon led a commercial analysis of the plants located in PJM.

For a utility with a significant coal portfolio, Mr. McMahon led an analysis of the company's generation options and how these options compared on a net present value revenue requirement basis across various scenarios.

For a utility that owned a portion of a nuclear power plant development impacted by the Westinghouse bankruptcy, Mr. McMahon led an engagement to analyze the methodologies and assumptions the company relied upon in their decision related to project completion or termination.

For an infrastructure fund, Mr. McMahon led the commercial due diligence around the fund's intended acquisition of a company that owns and operates waste-to-energy and simple cycle gas generating assets.

For an independent system operator, Mr. McMahon led an engagement focused on identifying best practices in competitive transmission procurement and how the ISO could become more efficient and quantitatively focused.

For an investment bank organizing a vehicle for a large industrial client to move deferred assets off the balance sheet, Mr. McMahon led the commercial due diligence around the expected performance of combined cycle power plants located across the U.S. and Canada tied to payments to the industrial through LTSA contracts.

For a large North American utility holding company, Mr. McMahon led a corporate portfolio strategy engagement focused on whether the company should consider diversifying away from electric and gas utilities toward midstream natural gas.

For an independent system operator, Mr. McMahon led an engagement to analyze the impact of a newly approved transmission project on the retail rates of customers in one particular state and how alternative cost allocation methods would impact rates.

For an integrated electric utility, Mr. McMahon led a project to develop bottom-up cost of service forecasts for 15 peer utilities in support of a client utility's analysis of its investment headroom.

For an independent system operator, Mr. McMahon led an engagement to forecast transmission rates to different transmission regions and companies based on known and expected projects.

For an infrastructure investment fund, Mr. McMahon led a commercial due diligence engagement to support the fund's acquisition of a portfolio of combined cycle assets located in North Carolina and Ohio.

For three independent system operations separately, Mr. McMahon led multiple projects around competitive transmission solicitations to analyze bids on a cost of service basis and produce comparative analytics for the ISOs.

For an independent system operator, Mr. McMahon led an engagement to develop the framework and process for evaluating competitive transmission projects against the criteria specified by the system operator in its tariff.

For a Southeast utility with a significant coal-fired fleet, Mr. McMahon led the development of a carbon compliance strategy including physical and financial hedging, reallocation of capital and O&M between plants, and demonstration of customer rate impacts to policymakers.

For a large municipal utility, Mr. McMahon led an engagement to prepare a smart grid investment plan that was approved by the City Council.

For a Midwest utility, Mr. McMahon led an engagement to analyze and compare smart grid and traditional infrastructure replacement projects based on their impact on system reliability then support a program investment filing with the Commission.

For a Midwest utility, Mr. McMahon led the development of a \$1.3 billion transmission and distribution replacement plan for filing with the state regulator, including enhancing the company's asset management program, analyzing the criticality of investment in classes of transmission and distribution assets, and preparing the regulatory filing and testimony.

For a large municipal utility, Mr. McMahon led an engagement to improve the resource planning and generation analytics capability, which included process development, considering new software and tools, and organizational realignment.

For a utility, Mr. McMahon led an engagement to support the shift to a new resource planning software, including training on applications and providing supporting analysis.

For a Midwest utility with a large coal portfolio, Mr. McMahon led an analysis of expected portfolio performance and consideration of alternative generation strategies, including portfolio divestiture and asset replacement.

For a Southwest utility with substantial coal assets, Mr. McMahon led an engagement to analyze how portfolios with varying amounts of coal performed under various future market conditions, and supported the company's resource plan with its regulator.

For a Midwest utility interested in expanding its regional footprint and taking advantage of Order 1000, Mr. McMahon led the development of a transmission strategy, including evaluating strategies of other transmission owners, analyzing the impact of investment on utility's rates, and developing recommendations for investment and partnership in MISO MVP projects.

For a utility attempting to optimize rate case timing as it relates to earnings, Mr. McMahon led a project to develop a detailed cost of service model to support a utility's strategic analysis of its capital investment, rate timing, and O&M spending options.

For a large generation and transmission cooperative facing rate pressures, Mr. McMahon supported the development of a strategy that reduced O&M costs and considered the impacts of future fuel costs on cooperative rates.

For a federally owned generation and transmission agency, Mr. McMahon analyzed alternative compliance options for the generation fleet with existing and expected environmental rules and how the company's fleet could comply overall at least cost.

For the State of California, Mr. McMahon led an engagement to develop a methodology for cost allocation of stranded costs and above market power costs related to the California Energy Crisis.

For the State of California, Mr. McMahon led an engagement to develop annual revenue requirements from 2002 to 2008 related to power costs incurred, and contracts entered into, during the California Energy Crisis.

Mr. McMahon led a generation strategy and integrated resource planning project on behalf of a Midwest utility that was considering significant portfolio changes including coal retirements and alternative capacity and energy additions.

Mr. McMahon led an initiative by a large utility holding company to consider alternative portfolio investments, including a natural gas midstream business.

Mr. McMahon led numerous projects on behalf of three RTO/ISOs to support procurement of competitive transmission under FERC Order 1000.

Mr. McMahon developed a carbon compliance strategy for a utility with a significant coal-fired fleet, including physical and financial hedging, reallocation of capital and O&M between plants, and demonstration of customer rate impacts to policymakers.

Mr. McMahon developed a resource strategy for an investor-owned utility with significant coal-fired assets and decreasing capacity factors, including evaluating net present value revenue requirements from alternative portfolios and developing real options analysis around retaining certain coal-fired assets and companion infrastructure.

Mr. McMahon developed a \$1.3 billion transmission and distribution replacement plan for a Midwest investor-owned utility for filing with the state regulator, including enhancing the company's asset management program, analyzing the criticality of investment in classes of transmission and distribution assets, and preparing the regulatory filing and testimony.

Mr. McMahon developed a transmission strategy for an investor-owned utility interested in expanding regional footprint and taking advantage of Order 1000, including evaluating strategies of other transmission owners, analyzing the impact of investment on utility's rates, and developing recommendations for investment and partnership in MISO MVP projects.

Mr. McMahon led a project to evaluate the impact of a new combined cycle on nodal prices and assess the expected transmission interconnection costs for the development, including running detailed price simulations and evaluating market dynamics in PJM.

Mr. McMahon led a project to analyze whether a utility could acquire energy and capacity bilaterally, or whether the existing market was short capacity, including analyzing existing capacity in the market, new entrants, and potential counterparties.

Mr. McMahon supported the State of California to develop a methodology for cost allocation of stranded costs and above market power costs related to the California Energy Crisis.

Mr. McMahon supported the State of California in developing annual revenue requirements from 2002 to 2008 related to power costs incurred, and contracts entered into, during the California Energy Crisis.

Mr. McMahon led a project to develop a detailed cost of service model to support a utility's strategic analysis of its capital investment, rate timing, and O&M spending options.

Mr. McMahon led a project to develop bottom-up cost of service forecasts for 15 peer utilities in support of a client utility's analysis of its investment headroom.

Filed Testimony

Testimony before the Missouri Public Service Commission on behalf of The Empire District Electric Company. MPSC File No. EA-2019-0010, Certificate of Convenience and Necessity. March 2019.

Testimony before the Wyoming Public Service Commission on behalf of Cheyenne Light, Fuel and Power Company d/b/a Black Hills Energy. Docket No. 20003-__-EP-18. Power Cost Adjustment Proceeding. May 2018.

Testimony before the Missouri Public Service Commission on behalf of The Empire District Electric Company. MPSC File No. EO-2018-0092, Generation Fleet Savings Analysis. October 2017.

Testimony before the Arkansas Public Service Commission on behalf of The Empire District Electric Company. APSC Docket No. 17-061-U, Generation Fleet Savings Analysis. October 2017.

Testimony before the Oklahoma Public Service Commission on behalf of The Empire District Electric Company. OCC No. PUD 2017 _____, Generation Fleet Savings Analysis. October 2017.

Testimony before the Kansas Public Service Commission on behalf of The Empire District Electric Company. KCC Docket No. 18-EPDE-_____-PRE, Generation Fleet Savings Analysis. October 2017.

Comments of FirstEnergy Service Company, Docket No. RM18-1-000. Affidavit in support of Comments by FirstEnergy Service Company, related to the Department of Energy Notice of Proposed Rule on Grid Resiliency before the Federal Energy Regulatory Commission. October 2017.

Order Instituting Rulemaking to Implement Portions of AB. 117 Concerning Community Choice Aggregation. Rulemaking 03-10-003. Testimony on behalf of the Department of Water Resources, April 14, 2004.

Order Instituting Rulemaking Regarding the Implementation of the Suspension of Direct Access Pursuant to Assembly Bill 1X and Decision 01-09-060. Rulemaking 02-01-011. Testimony on behalf of the Department of Water Resources, February 24, 2003.

Reports and Publications

"The Impact of LNG on US Power Markets", CRA Insights, March 2018

"Investing in Stakeholder Strategy: How a Supportive Stakeholder Environment Can Drive Revenue and Profitability", CRA Insights, January 2018

"Migration to Midstream: Strategic Considerations for Utilities Investing in Midstream Assets", CRA Insights, August 2017

"Emerging Issues in Electric Utility M&A", CRA Insights, January 2017

"The Growing Risks of Regulated Coal Ownership", CRA Insights, May 2016

"Driving Value Growth in the Evolving Electric Utility Landscape", CRA Insights, May 2016

"Why Utilities Need to Rethink Their Capital Programs: What Went Wrong in Indiana", CRA Insights, June 2015

"The Distributed Resource Plan", CRA Insights, February 2015

"An Uptick in Recent Electric Utility - Gas Utility Mergers. Expect More", Energy Bar Association, Litigation Journal, fall 2015, Vol. 15 No. 1

"Latent Risks in Utility M&A", CRA Insights, May 2014

"Risk Based Asset Investment Approaches to Improve System Resiliency", Black & Veatch, September 2013

"Strategic Issues Facing the Utility Industry: Perspectives on 2008 and Looking Forward", CRA Insights, February 2009

"Improving Capital Planning Process in Light of Today's Capital Crisis", CRA Insights, January 2009

"Valuation of Generation Assets: Why Modeling Matters", CRA Insights, September 2008

"Potential for Coal Plants' Hidden Value in a World of Carbon Costs", CRA Insights, December 2007

Presentations

Exploring Models for Engaging Regulators and Stakeholders to Meet Near Term and Long Term Investment Objectives, EEI Strategic Issues Roundtable, April 20, 2018

Finding Investment Headroom in a Rising Rate Environment, CRA Webinar, March 21, 2017

Utility M&A Finding Investment Headroom in a Rising Rate Environment, S&P Power and Gas M&A Symposium , February 14, 2017

Clean Power Plan: Perspectives on Utility Strategy, SNL Energy Webinar Series, January 13, 2016

Financial and Regulatory Challenges in Screening Utility M&A Targets, CRA Webinar, Oct 2016

Changing Energy Markets and the Evolving Generation Fleet, Utility Commissioners/ Wall Street Dialogue, May 10, 2016

Clean Power Plan: Implications for Utility Generation Strategy, EEI Strategic Issues Roundtable, September 30, 2015

Natural Gas Market Update: New England, Law Seminar International, August 27, 2014

Building a T&D Investment Program to Satisfy Utility Customers, Regulators, and Shareholders, SNL Energy Webinar Series, March 27, 2014

Sustainable Earnings Growth through Electric Utility Investment, EEI Strategic Issues Roundtable, October 9, 2013

Back to the Future or Back to the Past, EEI Strategic Issues Roundtable, February 18, 2011

How Social Media Impacts Customer Relationship Management and the Utility's Bottom Line, EEI Strategic Issues Roundtable, October 21, 2010