

Daniel E. Peaco

Principal Consultant

SUMMARY

Daniel Peaco is a Principal Consultant, Chairman, and Past-President at Daymark Energy Advisors, a leading provider of integrated policy, planning and strategic decision support services to the North American electric and natural gas industries.

Mr. Peaco has 35 years of experience in the electric industry, both as a utility planning practitioner and, for the past 20 years, as a consultant to the industry. His consulting practice has included engagements relating to strategic planning, competitive electric markets, integrated resource planning evaluation of generation asset investments, renewable energy policy, transmission planning, competitive procurement and power contracts, and industry restructuring.

Prior to joining Daymark Energy Advisors, he 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. He holds degrees from M.I.T. and Dartmouth College.

EMPLOYMENT HISTORY

Daymark Energy Advisors, Inc. Chairman President Managing Director	Boston, MA Aug 2015-current 2002-July 2015 1996-2002
Central Maine Power Company	Augusta, ME
Manager, Industrial Marketing and Economic Development Principal, CMP International Consultants Director, Power Supply Planning Power Supply Planning Analyst	1995-96 <i>1993-95</i> 1987-93 1986-87
Pacific Gas & Electric Company	San Francisco, CA
Power Supply Planning, Hydropower Planning, Cogeneration Contracts	1981-86
Massachusetts Energy Facilities Siting Council	Boston, MA
Planning Engineer	1978-79

EDUCATION

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

PUBLICATIONS, PRESENTATIONS & CONFERENCES

Independent Expert Consultant Report: Export Pricing and Revenues Review; Confidential Report prepared for the Manitoba Public Utilities Board regarding Manitoba Hydro's 20 year forecast of its export revenues submitted in its 2017/18 and 2018/19 General Rate Application, November 16, 2017. Lead Consultant and Principal Author.

The Opportunities and Risks for Developing Energy Infrastructure in New England (2017-2022); presentation provided at the Inaugural Pierce Atwood Energy Infrastructure Symposium, October 20, 2017.

Natural Gas in Power Generation; presentation provided at the 5th Annual Natural Gas Conference Natural Gas: Powering Maine's Future, September 28, 2017.

NECEC Transmission Project: Benefit to Maine Ratepayers, Report prepared for Central Maine Power regarding the benefits accruing to Maine ratepayers of the New England Clean Energy Connection, 1200 MW HVDC transmission expansion accompanied by 1090 MW of hydropower and wind energy project development offered in the Massachusetts RFP for Clean Energy Resources, September 27, 2017. Lead Consultant and Principal Author.

MCPC Project Benefits; Quantitative and Qualitative Benefits, Confidential Report prepared for Central Maine Power regarding the benefits of the Maine Clean Power Connection, a 345 kV transmission expansion accompanied by 1100 MW of wind energy project development offered in the Massachusetts RFP for Clean Energy Resources, July 27, 2017. Lead Consultant and Principal Author.

NECEC Project Benefits; Quantitative and Qualitative Benefits, Confidential Report prepared for Central Maine Power and H.Q. Energy Services regarding the benefits of the New England Clean Energy Connection, 1200 MW HVDC transmission expansion accompanied by 1090 MW of hydropower and wind energy project development offered in the Massachusetts RFP for Clean Energy Resources, July 27, 2017. Lead Consultant and Principal Author.

Evolving Practices in Electric Company Resource Planning: Key Insights from a Review of 15 Recent Electric Company Resource Plans, report prepared for the Electric Power Research Institute. May 2017. Lead Consultant and Principal Author.

Clean Energy Procurement Mechanisms, instructor for Post-Conference Workshop at the EUCI 3rd Annual U.S./Canada Cross-Border Energy Trade Summit, Boston, Massachusetts, March 2, 2017.

CHP Economic Factors: Electric and Natural Gas Market Trends, keynote presentation for the Efficiency Maine Combined Heat & Power Conference, Portland, Maine, September 29, 2016.

Changes in IRP in Market Transitions, Where Has It Happened?, presentation to the EUCI 16th Annual Integrated Resource Planning Conference, Long Beach, March 22, 2016.

MREI Project Benefits; Direct, Indirect, Qualitative and Other Benefits, prepared for Central Maine Power Company and Emera Maine regarding the benefits of the Maine Renewable Energy Initiative, a 345 kV transmission expansion accompanied by 1200 MW of wind energy project development. January 28, 2016. Lead Consultant and Principal Author.

MCPC Project Benefits; Direct, Indirect, Qualitative and Other Benefits, prepared for Central Maine Power Company regarding the benefits of the Maine Clean Power Connection, a 345 kV transmission expansion accompanied by nearly 600 MW of wind energy project development. January 28, 2016. Lead Consultant and Principal Author.

Independent Valuation Opinion for the Bellows Falls Station in the Town of Rockingham, VT, prepared for the TransCanada Hydro regarding the value of a 49 MW hydropower asset. July 2013 (Updated April 2015). Lead Consultant and Principal Author.

Review of Georgia Power Company Solar Projects at Forts Benning, Stewart, and Gordon, Report for the Georgia Public Service Commission. October 14, 2014. Lead Consultant and Principal Author.

Maine Power Connection: Analysis of Benefits in Maine and New England, Report for Central Maine Power. September 5, 2014. Lead Consultant and Principal Author.

Need For and Alternative To (NFAT) Review of Manitoba Hydro's Proposal for the Keeyask and Conawapa Generating Stations, Initial Expert Analysis Report prepared for the Manitoba Public Utilities Board. January 24, 2014. Supplemental Report. February 28, 2014. Lead Consultant and Principal Author.

Evaluation of the Transaction to Transfer the Entergy Corp. Transmission Business to ITC Holdings, Inc., Initial Report prepared for the General Staff of the Arkansas Public Service Commission. April 19, 2013. Lead Consultant and Principal Author.

Regarding Tri-State G&T's Cost to Serve Its Nebraska Loads and the Nebraska Power Supply Issues Group Loads, prepared for the Nebraska Power Supply Issues Group, two public power districts and two member-owned electric utilities in Western Nebraska. December 2012. Lead Consultant and Principal Author.

Independent Valuation Opinion for the Vernon Station in the Town of Hinsdale, NH, prepared for the TransCanada Hydro regarding the value of a 32 MW hydropower asset. November 2012. Lead Consultant and Principal Author.

Independent Valuation Opinion for the Comerford and McIndoes Stations in the Town of Monroe, NH, prepared for the TransCanada Hydro regarding the value of 179 MW hydropower assets. November 2012. Lead Consultant and Principal Author.

Independent Opinion Regarding the Market Value of Brassua Hydro LP Assets, prepared for the Owners of Brassua Dam regarding the value of a 4 MW hydropower asset. November 2012. Lead Consultant and Principal Author.

Independent Opinion Regarding Amortization Reserve of Brassua Hydro LP, prepared for the Owners of Brassua Dam regarding the amortization reserve value of a 4 MW hydropower asset. November 2012. Lead Consultant and Principal Author.

Regional Framework for Non-Transmission Alternatives, Report prepared for the New England States Committee on Electricity. October 2012. Lead Consultant and Principal Author.

Renewable Energy and Energy Efficiency Portfolio Standards(REPS) And Sustainable Energy in North Carolina, Lessons from the 2011 Energy Policy Committee Study, presentation to the 9th Annual Sustainable Energy Conference, Raleigh, North Carolina April 20, 2012.

Transmission Planning for the Next Generation, Some Implications for Generators in the New England Region of FERC Order 1000, presentation to the Connecticut Power and Energy Society's Energy, Environment, and Economic Development Conference, Cromwell, Connecticut March 14, 2012.

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

Public Service Commission of Utah Docket No. 17-035-39 Division of Public Utilities
Department of Commerce

Expert testimony regarding PacifiCorp's application for pre-approval of its proposed repowering of 999 MW of existing wind turbines, including issues regarding PTC qualification, economic benefits analysis, and project risks.

Preflied Testimony September 20, 2017 Surrebuttal Testimony November 15, 2017

Superior Court Windham Unit State of Vermont TransCanada Hydro Northeast, Inc. Expert testimony regarding the headwater benefits value of Moore Station, a 190 MW hydropower facility in appeal of appraised value in the Town of Waterford, Vermont.

Valuation Report November 11, 2016 Deposition testimony December 13, 2016

Superior Court Windham Unit State of Vermont TransCanada Hydro Northeast, Inc.

Expert testimony regarding the valuation of a Harriman Station, a hydropower facility (39 MW) in appeal of appraised values in the town of Whitingham, VT.

Docket No. 413-9-13 Wmcv Valuation Report September 19, 2016
Deposition November, 2016

Massachusetts Energy Facilities Siting Board Docket No. EFSB 15-06 NRG Energy NRG Canal 3 Development LLC Testimony regarding NRG's application for siting approval of a proposed 350 MW duel-fueled combustion turbine. Testimony addressed alternative technology assessment and consistency with energy and environmental policies of the Commonwealth, considering reliability, regional fuel diversity, global warming solutions policy, and renewable energy integration.

Direct Testimony December 2, 2015
Pre-filed Testimony April 4, 2016
Oral Testimony September 9 & 14, 2016

Georgia Public Service Commission Docket No. 40161 Georgia Public Service Commission Public Interest Advocacy Staff Witness sponsoring testimony regarding integrated resource planning methods, renewable energy economics and policy, fuel diversity considerations in resource planning.

Written Testimony May 6, 2016 Oral Testimony May 18, 2016

Superior Court Windham Unit State of Vermont TransCanada Hydro Northeast, Inc. Expert testimony regarding the headwater benefits value of the Somerset Reservoir in the Deerfield River. Headwater benefits determination were raised as a key issue in the Town of Somerset's valuation of the facility for property tax assessment.

Docket No. 470-10-13 Wmcv

Headwater Benefits Report November 13, 2015
Deposition testimony February 2, 2016

Superior Court Windham Unit State of Vermont TransCanada Hydro Northeast, Inc. Expert testimony regarding the valuation of a the Bellows Falls hydropower facility (49 MW) in appeal of appraised values in the town of Rockingham VT.

Docket No. 547-11-12 Wmev

Valuation Report April 23, 2015
Deposition February 4, 2014
Oral Testimony May 11, 12 and 13, 2015

Rhode Island **Superior Court** PC No. 2012-1847 TransCanada; Ocean States Power Holdings, Ltd.

Expert testimony regarding the valuation of a 540 MW combined cycle power plant in appeal of an appraisal conducted for the Town of Burrillville, RI. Prepared analysis of unit operations and revenue forecasts.

Report for 12/31/2010 December 19, 2012 Report for 12/31/2011 July 17, 2014 May 2, 2015 **Deposition Testimony**

Oklahoma Corporation Commission **OK Cogeneration**

Testimony regarding Oklahoma Gas & Electric Company Application for pre-approval of its Mustang Modernization Plan, addressing planning for retirement of 430 MW of gas-fired steam generation and addition of 400 MW of Combustion turbine generation, cost pre-approval, and Requirements for competitive procurement and alternatives

analysis.

Cause No. PUD 201400229

Pre-filed Testimony December 16, 2014 **Oral Testimony** March 18-19, 2015

Maine Public Utilities Commission

Central Maine Power

Testimony regarding CMP's application for approval

Maine Power Connection Transmission Project.

Docket No. 2014-048

Testimony addressed economic benefits associated with Interregional transmission connection and associated wind energy development benefits.

Expert Report September 5, 2014 **Rebuttal Report** February 27, 2015 September 18, 2014 **Oral Testimony** March 31, 2015

US District Court Colorado

Nebraska Power Supply

Expert testimony regarding Tri-State G&T cost to serve five Nebraska members.

Civil Action No.

10-CV-02349-WJM-KMT

Expert Report December 31, 2012 **Deposition Testimony** February 27, 2013 **Oral Testimony** May 19, 2014

Public Utilities Board Manitoba, Canada

PUB NFAT Panel

Issues Group

Needs For and Alternatives

To (NFAT)

Independent Expert (IE) for the review of Manitoba Hydro's Hydropower and Transmission Development Plan for 2,160 MW of hydro capacity at two locations, a 500 kV transmission line to Minnesota, and associated export contracts.

Expert Reports I January 24, 2014 Expert Reports II February 28, 2014 **Oral Testimony** April 8, 9, 10, 11, 2014

Superior Court State of Vermont TransCanada Hydro Northeast, Inc.

Expert testimony regarding the valuation of a four hydropower facilities totaling 260 MW in appeal of appraised values in the

towns of Vernon, Rockingham, and Barnet VT.

Docket No. 423-9-12 Wmcv Docket No. 547-11-12 Wmev Docket No. 244-9-12 Cacv Docket No. 245-9-12 Cacv

Valuation Report July 15, 2013 Deposition February 4, 2014

Arbitration City of Burlington, VT Expert testimony regarding the valuation of a 7 MW Burlington Electric Dept. hydropower facility and the determination of fair value AAA Case No. 11 198 Y 002014 12 for transfer of ownership of the asset. Valuation Report June 21, 2013 Rebuttal Report July 26, 2013 September 12, 2013 **Deposition Testimony** October 4, 2013 **Oral Testimony** Arkansas Public General Staff of the Testimony regarding the evaluation of Entergy Arkansas's **Service Commission** AK Public Service Comm. proposed divestiture of its transmission business to Docket No. 12-069-U ITC Holdings. April 19, 2013 **Direct Testimony** June 7, 2013 Surrebuttal Testimony Supplemental Testimony - Rate MitigationAug 15, 2013 Arbitration Owners of Brassua Dam Expert testimony regarding the valuation of a 4 MW AAA Case No. FPL Hydro Maine LLP hydropower facility and the determination of amortization reserve obligations under FERC license provisions. 11 153 Y 02133 11 Madison Paper Industries Merimil Ltd Partnership Valuation Report November 1, 2012 Amortization Reserve Report November 1, 2012 Amortization Reserve Rebuttal November 15, 2012 **Oral Testimony** December 5, 2012 General Staff of the **Arkansas Public** Testimony regarding the evaluation of Entergy Arkansas's **Service Commission** AK Public Service Comm. strategic reorganization options and request for authorization Docket No. 10-011-U to transfer control of its transmission asset to the Midwest ISO. **Oral Testimony** May 31, 2012 **Surrebuttal Testimony** April 27, 2012 **Direct Testimony** March 16, 2012 Burrillville TransCanada; Ocean States Expert testimony regarding the valuation of a 540 MW **Board of Review** Power Holdings, Ltd. combined cycle power plant in appeal of an appraisal conducted for the Town of Burrillville, RI. Valuation Report January 4, 2012 **Oral Testimony** March 1, 2012 Oklahoma **OK Corporation Commission** Testimony regarding a 60 MW Wind Energy Purchase Agreement and Cogeneration deferral Agreement proposed Corporation **OK Attorney General** by Oklahoma Gas & Electric Company, addressing Commission Cause No. PUD 201100186 cost pre-approval, and a requested waiver from competitive procurement requirements. Pre-filed Testimony February 8, 2012 General Staff of the **Arkansas Public** Testimony regarding the evaluation of Entergy Arkansas's **Service Commission** AK Public Service Comm. strategic reorganization options upon its exit from the Docket No. 10-011-U Entergy System Agreement. **Oral Testimony** September 9, 2011

Surrebuttal Testimony

Initial Testimony

Supplemental Initial Testimony

August 18, 2011

July 12, 2011 February 11, 2011 **State Corporation** Commission of the State of Kansas

The Landowner Group

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.

Initial Testimony

April 18, 2011

Federal Energy **Regulatory Commission** (FERC)

RM10-23-000

Maine Public Utilities Commission, et. al.

Expert Affidavit regarding economic analysis methodology for transmission project evaluation. Provided in reply comments on the FERC Transmission Planning and Cost Allocation NOPR.

Affidavit November 12, 2010

Maine Public Utilities Commission Docket No. 2008-255 Central Maine Power

Testimony regarding CMP's application for approval the Lewiston Loop 115kV Transmission Project. Testimony addressed non-transmission alternatives.

Oral Testimony November 16, 2008

December 14, 2010

Rebuttal Testimony November 8, 2010

August 27, 2010

Oklahoma **OK Corporation Commission** Corporation **OK Attorney General**

Commission

Cause No. PUD 201000092

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.

Pre-filed Testimony October 5, 2010 **Oral Testimony** November 3, 2010

Oklahoma Oklahoma Attorney General **Corporation Commission**

Cause No. PUD 201000037

Testimony regarding a 198 MW wind farm proposed by Oklahoma Gas & Electric, addressing cost pre-approval, resource need, and competitive procurement requirements.

Pre-filed Testimony June 11, 2010

Connecticut Dept. of **Public Utilities Control**

(DPUC)

Docket No, 10-02-07

Connecticut Energy Advisory Board (CEAB) Lead witness sponsoring the CEAB's 2010 Comprehensive Plan for the Procurement of Energy Resources.

Oral Testimony June 2 & 3, 2010

Georgia Public **Service Commission** Docket No. 31081

Georgia Public **Service Commission Public Interest** Advocacy Staff

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 Maine Public Utilities

Commission

Docket No. 2008-255

Central Maine Power

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.

October 10, 2008 **Oral Testimony**

November 19, 2008 December 21, 2009 February 4, 2010 December 4, 2009

Rebuttal Testimony

April 3, 2009

Oklahoma Oklahoma Attorney General

Corporation Commission Cause No. PUD 200900167 Testimony regarding a 102 MW wind farm proposed by Oklahoma Gas & Electric, addressing cost pre-approval, resource need, and competitive procurement. requirements.

Pre-filed Testimony Sept 29, 2009

Oklahoma Oklahoma Industrial Energy Corporation Commission Consumers (OIEC)

Cause No. PUD 200900099

Testimony regarding a power contract pre-approval and recovery of Independent Evaluator costs of Public Service Company of Oklahoma.

Pre-filed Testimony July 14, 2009

Connecticut Dept. of **Public Utilities Control**

(DPUC)

Docket No, 09-05-02

Connecticut Energy Advisory Board (CEAB) Lead witness sponsoring the CEAB's 2009 Comprehensive Plan for the Procurement of Energy Resources.

Oral Testimony June 30, 2009

Connecticut Dept. of **Public Utilities Control**

(DPUC)

Docket No, 08-07-01

Connecticut Energy Advisory Board (CEAB) Lead witness sponsoring the CEAB's 2008 Comprehensive Plan for the Procurement of Energy Resources. 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

Maine Superior Court

Civil Action

Docket No. cv-06-705

Worcester Energy Co., Inc.

Expert opinion regarding renewable energy and power

procurement services.

Pre-filed Report January 30, 2008 March 18, 2009 **Oral Testimony**

Massachusetts Dept. **Russell Biomass**

Of Telecommunications

And Energy

Docket No. DTE/DPU-06-60

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.

Pre-filed Testimony June 2007 **Oral Testimony** October 30, 2007

Hawaii Public Utilities

Docket No. 04-0046

Commission

Hawaii Division of Consumer Advocacy Testimony regarding Hawaii Electric Light Company's integrated resource plan.

Pre-filed Testimony September 28, 2007 **Oral Testimony** November 26, 2007

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Nevada Public Utilities Testimony regarding the prudency of Sierra Pacific Power Nevada Attorney General Commission **Bureau of Consumer Protection** Company in its purchased power expenses for the period Docket No. 06-12002 December 2001 through November 2002. **Pre-filed Testimony** September 14, 2007 Oklahoma Oklahoma Attorney General Testimony regarding a 950 MW coal-fired **Corporation Commission** generation facility proposed by Public Service of Oklahoma Cause No. PUD 2005516 and Oklahoma Gas & Electric, including IRP, Cause No. PUD 2006030 competitive procurement, and construction Cause No. PUD 2007012 financing issues. **Pre-filed Testimony** May 21, 2007 **Rebuttal Testimony** June 18, 2007 **Oral Testimony** July 26, 2007 Oklahoma Industrial Energy Oklahoma Testimony regarding a power contract proposal of Lawton Corporation Commission Consumers (OIEC) Cogeneration and the pricing analysis of Public Service Cause No. PUD 2002-038 Company of Oklahoma. **REMAND Pre-filed Testimony** October 28, 2005 **Rebuttal Testimony** March 17, 2006 **Oral Testimony** May 9, 2006 New Brunswick Board of New Brunswick Power Testimony regarding La Capra Associates' three technical Commissioners of Public Distribution Company audits of the NBP-Disco purchased power budget and Utilities (PUB) variance analyses for FY 2004 - 2006. Ref: 2005-002 **Oral Testimony** February 14-22, 2006 Connecticut Department Connecticut Energy Testimony regarding Connecticut's need for electric of Public Utility Control **Advisory Board** capacity to meet reliability requirements and to mitigate Docket No. 05-07-14 congestion charges in the wholesale markets. Phases I and II **Oral Testimony** February 14-22, 2006 May 1, 2006 June 15, 2006 September 26, 2005 Hawaii Public Utilities Hawaii Division of Testimony regarding competitive bidding rules and Commission **Consumer Advocacy** integrated resource planning. Docket No. 03-0372 **Oral Testimony** December 12-16, 2005 Oklahoma Oklahoma Industrial Energy Testimony regarding resource planning, prudency of generation **Corporation Commission** Consumers (OIEC) investment of Oklahoma Gas & Electric Company. Cause No. PUD 2005-151 Pre-filed Testimony September 12, 2005

Oklahoma Oklahoma Industrial Energy Corporation Commission Consumers (OIEC)

Testimony regarding resource planning, prudency of generation investment and fuel and purchased power expenses of Public Service Company of Oklahoma.

September 29, 2005

October 18, 2005

Pre-filed Testimony January 4, 2005

Rebuttal Testimony

Oral Testimony

Cause No. PUD 2003-076

Oklahoma Oklahoma Industrial Energy Testimony regarding power contract proposal for Blue Canyon wind development and avoided costs of Public Service Company Corporation Commission Consumers (OIEC) Cause No. PUD 2003-633/4 of Oklahoma. **Pre-filed Testimony** August 16, 2004 **Civil Litigation** Central Maine Power Co. Factual and expert witness in litigation regarding pricing Maine Superior Court provisions of a purchased power agreement between Docket No. CV-01-24 Central Maine Power and Benton Falls Associates. **Deposition Testimony** April 28, 2004 Oklahoma Oklahoma Attorney General Testimony regarding power contract proposal for PowerSmith **Corporation Commission** Cogeneration and avoided cost analysis of Oklahoma Gas & Electric Company. Pre-filed Testimony February 18, 2004 March 16, 2004 **Rebuttal Testimony Oral Testimony** August 4, 2004 Nevada Attorney General **Nevada Public Utilities** Testimony regarding the Nevada Power Company's Integrated Commission **Bureau of Consumer Protection** Resource Plan and associated financial plan. **Pre-filed Testimony** September 19, 2003 **Oral Testimony** October 15, 2003 Cape Wind Testimony regarding economic, reliability and environmental Massachusetts Energy **Facilities Siting Council** need for power in the Massachusetts and New England power Docket No. EFSB-02-2 markets regarding the need for new wind power facility. **Pre-filed Testimony** February 14, 2003 **Oral Testimony** August 6&7, 2003 Maine State Board of United American Hydro Testimony regarding the Maine and New England power **Property Tax Review** market prices pertaining to the valuation of a hydro-electric power facility in Winslow, Maine. **Oral Testimony** June18, 2003 Testimony regarding the prudency of Sierra Pacific Power **Nevada Public Utilities** Nevada Attorney General **Bureau of Consumer Protection** Commission Company in its purchased power expenses for the period Docket No. 03-1014 December 2001 through November 2002. **Pre-filed Testimony** April 25, 2003 Oklahoma Oklahoma Attorney General Testimony regarding a power contract proposal of Lawton **Corporation Commission** Cogeneration and the pricing analysis of Public Service Cause No. PUD 2002-038 Company of Oklahoma.

Pre-filed Testimony December 16, 2002
Oral Testimony May 22, 2003

Arkansas Public General Staff of the Testimony regarding the Development of Competition in Service Commission AK Public Service Comm. Electric Markets and the Impact on Retail Consumers in Arkansas.

Pre-filed Testimony September 4, 2001

Arkansas Public General Staff of the Testimony regarding the Development of Competition in Service Commission AK Public Service Comm. Electric Markets and the Impact on Retail Consumers in

		Pre-filed 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 Reply Comments Sur reply Comments Oral Testimony Petition for Rehearing	June 13, 2000 July 21, 2000 August 2, 2000 August 8, 2000
		Rebuttal Testimony Oral Testimony	November 15, 2000 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 Pre-filed Rebuttal Testimony Pre-filed Testimony Oral Testimony	June 27, 2000 June 23, 2000 June 16, 2000 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 Pre-filed Rebuttal Testimony Pre-filed Testimony	May 25, 2000 February 10, 2000 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.	
		Pre-filed Testimony Oral Testimony Pre-filed Testimony Oral Testimony	August 16, 1999 August 17, 2000 January 26, 2001 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	cilities Siting Council need for power in the Connecticut and		it and New England power
		Pre-filed 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 November 4, 1998 Pre-filed Testimony 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 May 27, 1998 Pre-filed Testimony 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 April 6, 1998 Pre-filed Testimony 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 October 15, 1997 Pre-filed Testimony 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 prudency of power purchase contract decisions with regard to contract awards and contract management.

Oral Testimony July 1993
Deposition Testimony February 25, 1993
March 1, 1993
Pre-filed Rebuttal Testimony June 7, 1993
Pre-filed Testimony 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 Pre-filed Testimony April 20, 1993 Pre-filed Testimony 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 Summer 1988
Pre-filed Testimony October 31, 1987



Douglas A. Smith

Managing Consultant and Treasurer

Doug Smith has over thirteen years of experience in the electric industry, bringing diverse strengths to Daymark's project teams by applying his extensive technical and analytical skills. A business professional with over twenty years of increasing responsibility as a consultant to multiple industries, Mr. Smith has a solid background in analysis, finance and accounting, database and software development, quality assurance, and project management.

Mr. Smith leads the firm's Market Analytics team which is responsible for maintaining Daymark's wholesale power market model and wholesale market outlook, researching energy and capacity markets throughout North America, and producing a variety of forecasts used to provide decision support for client needs including asset valuation, integrated resource planning, non-transmission alternative analysis and other similar projects. He has strong experience in market and power system dispatch analysis, and has been responsible for projecting market valuation, power costs, and emissions impacts for a number of clients.

SELECTED PROFESSIONAL EXPERIENCE

- Led an analysis of wind energy congestion for a potential New England wind and transmission project; reported on potential local and regional congestion
- Led an offshore wind siting feasibility study related to a potential investment in offshore leasing. Investigated interconnection and market risks and opportunities
- Led an analysis of the regional benefits related to a proposed dual-fuel fired peaker plant in New England; assisted the team in analyzing and reporting on emissions impact scenarios, with the plant operating as either an energy unit or a reserve unit; investigated state emissions policies and their potential impact on plant operations
- Led an analysis of a combined proposal for wind energy and transmission in northern New England; assisted team members in understanding the impacts of various quantities of wind energy and the respective transmission needed to deliver wind energy and provided scenario analysis to quantify the range of potential benefits, which resulted in two public reports as components of responses to a regional energy procurement effort
- Managed the creation of a proof of concept model of the Southern Company balancing authority and surrounding areas, including benchmarking to available public data and forecasting of potential future capacity expansion futures
- Assisted in asset valuation modeling work, including modeling of long term energy and capacity values for a number of coal, natural gas and hydro facilities
- As an input to several economic studies for NYSERDA, provided review and analysis of a thirdparty, long-term forecast of New York's energy and capacity markets
- Managed the review of a large generation owner's price forecasting process; provided recommendations for process improvements designed to more-closely align forecasting efforts with internal requirements and updated and extended the client's New York modeling capabilities

- using the AURORA production cost model; recommended key benchmarking tools for evaluation of specific forecasting results
- Assisted in the assessment of a request to the Arkansas Public Service Commission for a
 declaratory order; the request sought a finding that installation of environmental controls at the
 Flint Creek power plant was in the public interest
- Assisted in assessing requests to the North Dakota Public Service Commission for Advanced Determinations of Prudence; requests were sought by the Montana Dakota Utilities GT and the Big Stone Air Quality Control System
- Assisted in a review of Entergy Arkansas's strategic planning for post-System Agreement operation on behalf of the General Staff of the Arkansas Public Service Commission
- Assisted a Vermont-based utility in the evaluation of a potential generation purchase; designed an analytical model for use in evaluating potential revenue and cost streams under a variety of scenarios
- Assisted in evaluating non-transmission alternatives (NTAs) as compared to a set of proposed transmission upgrades in Vermont; assisted in the development of an economic scorecard designed to facilitate the comparison of transmission and non-transmission solutions on equal footing and compared potential rate impacts of the proposed solutions
- Assisted in evaluating non-transmission alternatives (NTAs) as compared to a set of proposed transmission upgrades in Maine; evaluated the economics of transmission and non-transmission solutions and leveraged market simulation models to estimate the impact of solutions on energy clearing prices in Maine and in New England
- On behalf of Vermont-based utility, developed and analyzed non-transmission alternatives (NTAs)
 to a set of proposed transmission upgrades that would impact the distribution-level supply
 system; developed an economic tool to evaluate the cost of operating "pre-contingency"
 generation options
- Analyzes budgetary and other cost-related data on behalf of the National Railroad Passenger Corporation (Amtrak); interacts with the client on a monthly basis to provide analysis of power cost drivers, track monthly power costs, and deliver other accounting and electric consulting services; provides assistance in periodic power procurement activities
- Assisted in planning, managing, and performing an audit of actual and hypothetical purchased power costs for a Michigan utility; issues included market valuation of potential sales, proper treatment of a pumped storage unit, and validation of commitment/dispatch logic; this project also involved a process audit and the review of large volumes of data involved in determining hypothetical system costs
- Assisted in maintaining an Allocated Cost of Service model, including modifying allocators and introducing new methodology
- Researched issues related to state, regional, and Federal environmental regulations and their impacts on energy generation; modeled environmental variables including current SO₂, NO_X and CO₂ rates and allowance prices, emission control technologies, and likely future changes
- Participated in developing revenue projections for valuation of power plants

PUBLICATIONS

MCPC Project Benefits; Quantitative and Qualitative Benefits, Confidential Report prepared for Central Maine Power regarding the benefits of the Maine Clean Power Connection, a 345 kV transmission expansion accompanied by 1100 MW of wind energy project development offered in the Massachusetts RFP for Clean Energy Resources, July 27, 2017. Lead Analyst and Contributing Author.

NECEC Project Benefits; Quantitative and Qualitative Benefits, Confidential Report prepared for Central Maine Power and H.Q. Energy Services regarding the benefits of the New England Clean Energy Connection, 1200 MW HVDC transmission expansion accompanied by 1090 MW of hydropower and wind energy project development offered in the Massachusetts RFP for Clean Energy Resources, July 27, 2017. Lead Analyst and Contributing Author.

MREI Project Benefits; Direct, Indirect, Qualitative and Other Benefits, prepared for Central Maine Power Company and Emera Maine regarding the benefits of the Maine Renewable Energy Initiative, a 345 kV transmission expansion accompanied by 1200 MW of wind energy project development, January 28, 2016. Lead Analyst and Contributing Author.

MCPC Project Benefits; Direct, Indirect, Qualitative and Other Benefits", prepared for Central Maine Power Company regarding the benefits of the Maine Clean Power Connection, a 345 kV transmission expansion accompanied by nearly 600 MW of wind energy project development, January 28, 2016. Lead Analyst and Contributing Author.

EMPLOYMENT HISTORY

Daymark Energy Advisors Inc. Treasurer Managing Consultant Senior Consultant Analyst	Boston, MA 2016 – Present 2017 – Present 2008 – 2017 2004 – 2008
The Sports Authority Senior POS/EDP Programmer/Analyst	Ft. Lauderdale, FL 2002 – 2004
University of Colorado Instructor, Oracle SQL*Plus Class	Boulder, CO 2001 – 2001
SHL USA Inc. Software Engineer	Boulder, CO 2000 – 2001
Strategic Technologies Group Senior Consultant	Boulder, CO 1995 – 2000

EDUCATION

Syracuse University	Syracuse, NY
B.S., Accounting, Summa Cum Laude	1991