**EDUCATION:** Master of Science, Applied Mathematics, Georgia Institute of Technology, 1976 Bachelor of Science, Applied Mathematics, Georgia Institute of Technology, 1974

## **PROFESSIONAL MEMBERSHIP:**

Institute of Electrical and Electronic Engineers

### **EXPERIENCE:**

Mr. Evans is currently the President of Evans Power Consulting, Inc. He has served the electric power utility industry for over thirty years. His primary areas of expertise include market price forecasting, integrated resource planning, the analysis of purchased power, system operations, interruptible rates, the optimal scheduling of generator maintenance, the computer simulation of electric power systems, the integration of wind generation and demand-side management. As an expert witness in these areas, Mr. Evans has submitted expert testimony on over 40 occasions, before the public utility commissions in Pennsylvania, Georgia, Michigan, Arkansas, South Dakota, Colorado, Illinois, Mississippi, Alabama, Delaware, South Carolina, Utah and Oklahoma; and also before the FERC, and in both state and federal court. He is an expert in the computer modeling of electric power systems and the use of PROMOD IV, Strategist, POWERSYM, EGEAS, ELFIN and ENPRO.

# **Specific Experience Includes:**

<u>1997-2011</u> Slater Consulting

<u>Utah Department of Public Utilities</u> – Testified in two PacifiCorp rate cases concerning the appropriate level of net power costs, including wind integration costs and other issues.

<u>South Dakota PUC</u> – Testified on the Integrated Resource Plans of Black Hills Power and Otter Tail Power, and the validity of a coal fired generation addition and a wind generator addition.

<u>Golden Spread Electric Cooperative</u> – Presented expert testimony in a FERC complaint concerning the actual operation of an economy sales agreement between Golden Spread and Southwestern Public Service Company.

<u>Cooper Nuclear Plant</u> - Development of the estimated damages caused by imprudent outages of a Nebraska nuclear generating unit.

<u>Millstone 3 Nuclear Unit</u> - Analysis of the replacement energy costs for the Millstone 3 nuclear unit on behalf of the co-owners.

<u>Independent Power Producers</u> - Presented expert testimony before the Alabama and Mississippi PSCs concerning the construction of new combined cycle facilities in those states.

<u>S.C. State Energy Office</u> - Developed a report summarizing and evaluating the Integrated Resource Plans filed by the electric utilities of South Carolina.

<u>1989-1997</u> GDS Associates, Inc.

Mr. Evans served as a principal and the Manager of the System Modeling group, where he was responsible for performing analyses, providing expert testimony and developing customized software. He is an expert in the use of the industry standard computer models PROMOD III, PROSCREEN II, PROVIEW, MAINPLAN, CAT II and ENPRO. A sampling of representative assignments follows:

<u>Tenaska, Air Liquide & Tenneco</u> - Developed forecasts of market clearing prices for electricity in the ERCOT region.

<u>GEMC</u> - Produced a forecast of market clearing prices for electricity in the SERC region and estimated stranded costs.

<u>Central Virginia Electric Cooperative</u> - Designed, developed and installed software to allow the Cooperative to purchase economy energy in an optimal manner on a daily basis.

<u>City of Grand Island, Nebraska</u> - Developed the initial Integrated Resource Plan for the City of Grand Island.

<u>Georgia PSC</u> - Evaluated the 1995 Integrated Resource Plans filed by Georgia Power and Savannah Electric. Developed alternative Integrated Resource plans that were approved by the Commission.

Nucor Steel - Audited the bills for electric service for the Nucor-Hickman Steel Mill.

<u>Nucor Steel</u> - Testified before the Arkansas PSC concerning the reasonableness of a buy-through clause for interruptible customers.

<u>Nucor Steel</u> - Developed a comprehensive forecast of the likely levels of interruptions of service over the next ten years.

<u>South Dakota Public Utility Commission</u> - Evaluated the rate filing and Integrated Resource Plan filed by Black Hills Power & Light.

<u>Georgia PSC</u> - Evaluated Georgia Power's initial RFP for power, all bids received and Georgia Power's selection process. Testified before the Georgia PSC concerning the reasonableness of Georgia Power's evaluation process and resulting request for certification.

<u>Michigan Attorney General</u> - Performed studies concerning the availability of the Midland Cogeneration Venture and Consumer Power Company's avoided costs.

<u>Michigan Attorney General</u> - Developed estimates of cost reductions due to improved projected fossil performance and changes in cogeneration levels in a Consumers Power rate case.

<u>Pennsylvania PUC</u> - Testified concerning the capacity needs of a Pennsylvania utility and the appropriate avoided costs due potential cogeneration projects.

<u>Golden Spread Electric Cooperative</u> - Developed detailed historical reconstructions of five years of hourly operations of a major Texas utility to illustrate the penalties arising to wholesale ratepayers as a result of off-system sales.

<u>Sam Rayburn G&T</u> - Designed, developed and implemented a PC-based software system to facilitate daily load forecasting, optimal resource scheduling and inadvertent accounting in a user-friendly fashion.

<u>Tex-La Electric Cooperative</u> - Designed, developed and implemented a similar software system for daily load forecasting and optimal resource scheduling. This application also included the development of an optimization process which maximizes the total economy energy scheduled while adhering to limitations on load factor and the number of hourly changes.

<u>PG&E-Bechtel Generating Company</u> - Assisted this NUG developer in forecasting the dispatchability of a project and estimating likely costs in a power bidding solicitation.

<u>1980-1989</u> Energy Management Associates, Inc. - now known as New Energy Associates

While with EMA, Mr. Evans performed product development, maintenance programming and client support on the three major products marketed and developed by EMA - PROMOD III, PROSCREEN II, and MAINPLAN. He is extremely well-versed

in the development of databases for these tools and in applying these tools to particular studies.

As MAINPLAN Product Manager (1985-1989), Mr. Evans supervised and directed the development, maintenance, and client support for MAINPLAN - the software package that is the industry leader in the area of generating unit maintenance scheduling. The client base for MAINPLAN grew from two clients to over thirty clients during his involvement. Also during his tenure, a chronological production costing model was added to MAINPLAN. This highly detailed model has been used to evaluate interchange opportunities, the cost of forced outages, short-term fuel requirements and unit commitment strategies.

# **Publications:**

Backcasting - A new computer application can determine historical truth for utilities that must refute damage claims, Fortnightly, October 1, 1993.

"Avoiding and Managing Interruptions of Electric Service Under an Interruptible Contract or Tariff", Industrial Energy Technology Conference, April, 1995.

"Analysis and Evaluation of the Integrated Resource Plans of the Investor-Owned and State-Owned Electric Utilities in South Carolina", for the South Carolina State Energy Office, April, 1998.

**Programming Languages:** Visual Basic, C++ for Windows, C, FORTRAN and COBOL.

- On Behalf of Golden Spread Electric Cooperative, Inc., Before the Federal Energy Regulatory Commission, Docket No. EL89-50-000, filed April 2, 1990. Subject matter: The effect of offsystem sales on wholesale customers.
- On Behalf of Bethlehem Steel Corporation, Before the Pennsylvania Public Utility Commission, Docket No. P-870235, filed March 18, 1992. Subject matter: Need for capacity and avoided costs of a Pennsylvania Utility.
- On Behalf of the Georgia Public Service Commission Staff IRP Adversary Team, Before the Georgia Public Service Commission, Docket No. 4133-U and 4136-U, filed October 1992.
   Subject matter: Integrated resource planning and analysis of purchase power offers.
- 4. On Behalf of the State of Michigan Department of Attorney General, Before The Michigan Public Service Commission, Case No. U-10127, filed November 1992. Subject matter: Availability of MCV, the worth of the proposed CAPS on availability payments to MCV, and the costs to the rate payers from the proposed MCV Settlement.
- On Behalf of the Georgia Public Service Commission Staff IRP Adversary Team, Before the Georgia Public Service Commission, Docket Nos. 4311-U, filed June 1993. Subject matter: Application for Certification of The Robins Combustion Turbine Project.
- On Behalf of Nucor-Yamato Steel Company, Before the Arkansas Public Service Commission, Docket No. 93-132-U, filed November 1, 1993. Subject matter: AECC Hydro CCN and the need for a "buy-through" clause in interruptible contracts.
- On Behalf of the Georgia Public Service Commission Staff IRP Adversary Team, Before the Georgia Public Service Commission, Docket No. 4895-U, filed May 1994. Subject matter:

Application for Certification of The Florida Power Corporation Power Purchase and the Intercession City Combustion Turbine Project.

- On Behalf of the State of Michigan Department of Attorney General, Before The Michigan Public Service Commission Case No. U-10685, filed March 1995. Subject matter: Authority to increase its rates for the sale of electricity.
- 9. On Behalf of the Georgia Public Service Commission Staff IRP Adversary Team, Before the Georgia Public Service Commission, Docket No. 5601-U and 5602-U, filed May 1995. Subject matter: Application for Approval of an Integrated Resource Plan and Commission Review of DSM Certificates.
- 10. On Behalf of The South Dakota Public Utilities Commission Staff, Before the South Dakota
  Public Utilities Commission, Docket No. EL95-003, filed June 1995. Subject matter: Modeling
  and assumptions utilized in the development of the IRP filed by Black Hills Power & Light.
- On Behalf of the Residential Ratepayer Consortium, Before the Michigan Public Service
  Commission, Case No. U-10427-R, filed August, 1995. Subject Matter: Computation of Fermi 2
  Replacement Power Costs.
- On Behalf of the Georgia Public Service Commission Staff IRP Adversary Team, Before the Georgia Public Service Commission, Docket No. 4900-U, filed December 1995. Subject matter: Georgia Power Company's Application for Certification of the Mid-Georgia Cogeneration PPA.
- On Behalf of the Residential Ratepayer Consortium, Before the Michigan Public Service
  Commission, Case No. U-10702-R, filed August 8, 1996, Subject Matter: Computation of Fermi 2
  Replacement Power Costs.

- On Behalf of the Georgia Public Service Commission Staff IRP Adversary Team, Before the
  Georgia Public Service Commission, Docket No. 6737-U, filed November 1996. Subject matter:
  Integrated Resource Planning and Certification of Supply-Side Resources.
- On Behalf of Progress Energy Corporation, Destec Energy, Inc., and U.S. Generating Company,,
  Before the Alabama Public Service Commission, Docket No. 26115, filed October 1997. Subject
  Matter: Alabama Power's application for approval of the construction of an 800 MW combined
  cycle generating facility.
- On Behalf of Progress Energy Corporation, Destec Energy, Inc., and U.S. Generating Company,
  Before the Mississippi Public Service Commission, Docket No. 97-UA-496, filed November 1997.
  Subject Matter: Mississippi Power Company's petition for approval for the construction of a 1000
  MW combined cycle generating facility.
- 17. On Behalf of the State of Michigan Department of Attorney General, Before the Michigan Public Service Commission, Case No. U-11180-R, filed October 1998. Subject Matter: The Application of Consumers Energy Company for a reconciliation of power supply recovery costs.
- On Behalf of NRG Energy, Inc., in an Arbitration between NRG Generating (U.S.), Inc., and NRG Energy, Inc., filed June 1998. Subject Matter: The market value of the disputed generating resource.
- 19. On Behalf of the Delaware Division of the Public Advocate, Before the Delaware Public Service
  Commission, Docket No. 99-328, filed February 2000. Subject Matter: Investigation into the July
  1999 Outages and General Service Reliability
- On Behalf of Holy Cross Energy, Before the Public Utilities Commission of the State of Colorado,
  filed July 2001, Docket No. 01A-181E. Subject Matter: Restructuring of Thermo QF Contracts

- 21. On Behalf of Golden Spread Electric Cooperative, Inc., Before the Federal Energy Regulatory Commission, filed October 2001, Docket No. EL02-1-000. Subject Matter: Dispute concerning the Commitment and Dispatch Agreement between Golden Spread and Southwestern Public Service Company.
- 22. On Behalf of Golden Spread Electric Cooperative, Inc., Before the Federal Energy Regulatory Commission, filed January 2002, Docket No. EL02-21-000. Subject Matter: Dispute concerning the Commitment and Dispatch Agreement between Golden Spread and Southwestern Public Service Company.
- 23. On Behalf of Lawton Cogeneration, LLC, Before the Corporation Commission of the State of Oklahoma, filed September 2002, Cause No. PUD 200200038: Establishment of Purchased Power Rates and a Purchase Power Contract with Public Service Company of Oklahoma Pursuant to PURPA.
- 24. On Behalf of Aquila, Inc., Intermountain Rural Electric Association, Inc., Holy Cross Energy and Yampa Valley Electric Association, Inc., Before the Federal Energy Regulatory Commission, filed April 2003, Docket Nos. EL02-25-000, EL02-76-000 and EL03-33-000: PSCo Fuel Clause.
- 25. On Behalf of Blue Canyon Windpower II, LLC, Before the Corporation Commission of the State of Oklahoma, filed May 2004, Cause No. PUD 200300633: For Establishment of Purchased Power Rates and a Purchase Power Contract with AEP - Public Service Company of Oklahoma Pursuant to PURPA.
- 26. On Behalf of Blue Canyon Windpower V, LLC, Before the Corporation Commission of the State of Oklahoma, filed May 2004, Cause No. PUD 200300634: For Establishment of Purchased Power Rates and a Purchase Power Contract with AEP - Public Service Company of Oklahoma

Pursuant to PURPA.

- 27. On Behalf of the Staff of the Public Utilities Commission of Colorado, Before the Public Utilities Commission of the State of Colorado, filed July 2004, Docket No. 04A-050E: Review of the Electric Commodity Trading Operations of Public Service Company of Colorado.
- 28. On Behalf of Chermac Energy Corporation and Sleeping Bear, LLC, Before the Corporation Commission of the State of Oklahoma, filed June 2005, Cause No. PUD 200500059: Application for the establishment of purchased power rates and a PPA with Oklahoma Gas & Electric.
- 29. On Behalf of Lawton Cogeneration, LLC, Before the Corporation Commission of the State of Oklahoma, filed October 2005, Cause No. PUD 200200038: Remand proceeding on the Application for establishment of purchased power rates and a PPA with Public Service Company of Oklahoma.
- 30. On Behalf of Golden Spread Electric Cooperative et al, Before the Federal Energy Regulatory Commission, Docket No. EL05-19-002: Fuel Clause complaint against Southwestern Public Service Company.
- 31. On Behalf of Johns Manville, Inc. and others, Before the United States District Court for the Northern District of Alabama, Civil Action No.: 2:99-CV-2294-VEH-HGD: Damage Computations for Interruptible Customers of the Tennessee Valley Authority.
- 32. On Behalf of the Georgia Public Service Commission Public Interest Advocacy Staff, before the Georgia Public Service Commission, Docket No. 24505-U: Georgia Power Company's Application for Approval of its 2007 Integrated Resource Plan.
- 33. On Behalf of the Attorney General of Michigan, before the Michigan Public Service Commission,Case No. U-15001: Application of Consumers Power Company for Approval of a Power Supply

Cost Recovery Plan and for Authorization of Monthly Power Supply Cost Recovery Factors for the Calendar Year 2007.

- On Behalf of Golden Spread Electric Cooperative, Inc., before the 108<sup>th</sup> District Court of Texas,
  Cause No. 95,028-E: Contract Dispute concerning Denver City Energy Associates L.P.
- 35. On Behalf of the South Carolina Office of Regulatory Staff, before the South Carolina Public Service Commission, Docket No. 1008-196-E, Combined Application of SCE&G for the Construction and Operation of a Nuclear Facility in Jenkinsville, South Carolina.
- 36. On Behalf of the Utah Division of Public Utilities, before the Public Service Commission of Utah, Docket No. 09-035-23, Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates.
- 37. On Behalf of the Staff of the South Dakota Public Utilities Commission, before the Public Utilities Commission of South Dakota, Docket No. EL09-018, Black Hills Power, Inc. Application to Increase Electric Retail Rates in South Dakota: Integrated Resource Planning.
- 38. On Behalf of the Staff of the South Dakota Public Utilities Commission, before the Public Utilities Commission of South Dakota, Docket No. EL10-011, Otter Tail Power Company Application to Increase Rates for Electric Utility Service in South Dakota: Integrated Resource Planning.
- 39. On Behalf of the Utah Division of Public Utilities, before the Public Service Commission of Utah, Docket No. 10-035-124, Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates.
- 40. On Behalf of Georgia Watch, before the Georgia Public Service Commission, Docket No. 31958,
  Georgia Power Company's General Rate Case

- On Behalf of the Utah Division of Public Utilities, before the Public Service Commission of Utah,
  Docket No. 11-035-200, Application of Rocky Mountain Power for Authority to Increase its Retail
  Electric Utility Service Rates.
- 42. On Behalf of the Utah Division of Public Utilities, before the Public Service Commission of Utah,
  Docket No. 12-035-92, Request of Rocky Mountain Power for Approval to Construct Selective
  Catalytic Reduction Systems on Jim Bridger Units 3 and 4.
- On Behalf of the Southern Alliance for Clean Energy, before the Georgia Public Service Commission, Docket No. 36498, Georgia Power's 2013 Integrated Resource Plan.
- 44. On Behalf of the Office of Regulatory Staff, before the South Carolina Public Service Commission, Docket No. 2013-208-E, Application of South Carolina Electric & Gas Company for Approval to Continue Demand Side Management Programs and Rate Rider, and for Approval of Revised Portfolio of Energy Efficiency Programs.
- 45. On Behalf of the Office of Regulatory Staff, before the South Carolina Public Service Commission, Docket No. 2013-298-E, Application of Duke Energy Carolinas, LLC for Approval of New Cost Recovery Mechanism and Portfolio of Demand-Side Management and Energy Efficiency Programs.