

**Exhibits for Testimony of George W. Evans**  
**May 10, 2013**  
**Docket No. 36498**

<b><u>Exhibit No.</u></b>	<b><u>Description</u></b>
SACE-GWE-1	Resume of George W. Evans
SACE-GWE-2	Gaston 1-4 Fuel Switch to Natural Gas versus Retirement (Public Disclosure Version)
SACE-GWE-3	Strategist Data in Support of Exhibit SACE-GWE-2 (redacted in its entirety)
SACE-GWE-4	Strategist Data in Support of Exhibits SACE-JDW-2, 3, 5, 7 and 8 of SACE Witness John Wilson (redacted in its entirety)

*George W. Evans*  
*President*  
*Evans Power Consulting, Inc.*

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**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, net power costs, 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 41 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, GRID, POWERSYM, EGEAS, ELFIN and ENPRO.

**Specific Experience Includes:**

1997-2011 Slater Consulting

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

South Dakota PUC – 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.

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

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

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

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

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

1989-1997 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:

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

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

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

City of Grand Island, Nebraska - Developed the initial Integrated Resource Plan for the City of Grand Island.

Georgia PSC - 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.

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

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

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

Georgia PSC - Evaluated Georgia Power's initial RFP for power, all bids received and Georgia Power's selection process. Testified before the Georgia PSC concerning the

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reasonableness of Georgia Power's evaluation process and resulting request for certification.

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

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

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

Golden Spread Electric Cooperative - 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.

Sam Rayburn G&T - 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.

Tex-La Electric Cooperative - 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.

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

1980-1989      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

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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.

## Public Disclosure

### Gaston 1-4 Fuel Switch to Natural Gas versus Retirement Assuming a 60 Year Life for the Units

50% Ownership  
\$redacted

Gaston 1-4 Converted to NG	Maintenance Capital	redacted
	Fixed O&M	redacted
	Gas Conversion	redacted
	Environmental Capital	redacted
	Environmental O&M	redacted
	Strategist Result	redacted
	<b>TOTAL</b>	redacted
Gaston 1-4 Retired	Maintenance Capital - Replacement Units	redacted
	Transmission Capital Cost - Replacement Units	redacted
	Strategist Result	redacted
	<b>TOTAL</b>	redacted
<b>Net Benefit of Gaston 1-4 Fuel Switching</b>		redacted

**EXHIBIT SACE-GWE-3**

This exhibit has been redacted in its entirety

**EXHIBIT SACE-GWE-4**

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