Frederick S. "Stu" Bresler III

Electric Industry Executive

Regional Transmission Organizational leader, power system operations, wholesale markets leadership

Respected executive with 25+ years of experience in electric power systems with a focus on power system operations, electricity market design and electrical power grid planning. Extensive experience in System Operations, including operation of PJM's dual, redundant control centers and all operations support functions. Responsible for all of PJM's Market Operations and Market Development. Previous roles of increasing responsibilities involved power system modeling and analysis, system operations, electricity market design and operations. Involved with bulk power system operations and the development and implementation of electricity markets for capacity, energy, transmission rights and ancillary services for his entire career.

Core competencies include:

- Balances Stakeholder Perspectives
- Builds Effective Teams
- Change Management
- Decision Quality
- Developing Direct Reports and Others
- Ensures Accountability
- Innovation Management
- Integrity and Trust
- Intellectual Horsepower

- Managing and Measuring Work
- Operations Management
- Organizational Agility
- Persuasion
- Policy Development
- Presentation Skills
- Strategic Planning
- Values Differences
- Written Communications

Professional Experience -

PJM Interconnection, LLC | 2750 Monroe Blvd., Audubon, PA 19403

Senior Vice President, Market Services

(effective October 2019)

PJM ensures the reliability of the high-voltage electric power system serving 65 million people in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. Offered Executive Leadership role designed to provide executive guidance to the Markets and Planning divisions at PJM. The Markets division is responsible for all aspects of Market Operations and Evolution. The Planning division coordinates the operation of the region's transmission grid, which includes over 84,236 miles of transmission lines. The division is comprised of employees in the Transmission Planning, Interregional Planning, Interconnection Analysis & Projects, Infrastructure Coordination and Resource Adequacy Planning departments.

Senior Vice President, Operations & Markets

(July 2016 – October 2019)

Focused on leading all aspects of PJM's operations and markets functions. This includes 24x7 operations of dual, redundant control centers utilized for the conduct of real time transmission and generation and dispatch. Operations, under the leadership/direction of the SVP/VP of Operations is responsible for reliability coordination, system operator training, engineering analysis and support. Markets responsibility included: all markets operated by PJM including those for Capacity, Day-Ahead and Real-Time Energy, Ancillary Services, Financial Transmission Rights, and Demand Response operations. In addition, this role oversees the market efficiency component of the Regional Transmission Expansion Planning (RTEP) process, and the continued evolution of PJM's markets, including the integration of renewable resources and the development of analytics to support the sustained high performance of those markets.

(Senior) Vice President, Market Operations

(April 2009 – July 2016)

Responsible for all aspects of PJM's market operations and market evolution functions. Functions include all prior market operations listed below. Market Evolution added oversight in the integration of renewable resources into PJM's operations and markets, development of price responsive demand, and integration of Distributed Energy Resources into wholesale operations and markets.

General Manager & Executive Director, Market Operations

(August 2004 – April 2009)

Leadership responsibility for all aspects of PJM market operations, including capacity market operations, Financial Transmission Right (FTR) market development and operations, day-ahead market operations, real-time market operations and Locational Marginal Price calculation and verification, and ancillary service markets, all market settlements, and market development.

Manager, Market Development

(December 2001 – August 2004)

Responsible for the development of the technical systems required to operate the various markets implemented in the PJM region during this time period. These included day-ahead energy markets, real-time energy markets, Financial Transmission Rights markets, and ancillary service markets. Also responsible for the development and implementation of the opertions and markets aspects of PJM's geographic expansions, which effectively doubled the the size of the PJM region. Development of PJM electricity markets included additional ancillary service markets, the annual and long-term FTR auctions, and other market design enhancements.

(Senior) Engineer, Operations

(May 1994 - December 2001)

Completed day-to-day transmission systems analysis including reliability analysis of transmission outages and coordination with generation outages. Documented requirements and conducted testing of a new Energy Management System. Implemented the Regulation Market – PJM's first ancillary services market. Designed and implemented PJM's first Demand Response programs.

Education:

May 1992

Master of Management - Business Administration The Pennsylvania State University May 1997

Bachelor of Science – Electrical Engineering The Pennsylvania State University

Certifications:

Licensed Professional Engineer - Pennsylvania National Association of Corporate Directors Certified Director

Academic Involvement:

University of Idaho Utility Executive Course Lecturer (2015 – 2017)

The Pennsylvania State University – School of Energy Business and Finance
Guest Lecturer (2016 – 2019)

Board Involvement:

APEx (Association of Power Exchanges)
PJM Connext

External Advisory Board for the Department of Energy and Mineral Engineering - Penn State University Habitat for Humanity of Chester County (2018 – 2023)

Selected Publications

Bresler, Frederick S. et. al., <u>Performance-Based Regulation Model in PJM Wholesale Markets</u>, <u>2014 IEEE PES</u>
<u>General Meeting | Conference & Exposition</u>, <u>2014 IEEE PES General Meeting Conference</u> & Exposition, July 2014.

Bresler, Frederick S. et. al., <u>Integration of Demand Response into PJM Capacity Market Incremental Auction</u>, <u>2013 IEEE</u> Power & Energy Society General Meeting, 2013

Bresler, Frederick S. et. al., <u>A Two-Stage Robust Optimization for PJM Look-Ahead Unit Commitment</u>, <u>2013 IEEE</u> *Grenoble Conference*, 2013

Bresler, Frederick S. et. al., <u>Impact of Price Responsive Demand on PJM Real-Time/Look-Ahead Markets</u>, <u>2011 IEEE</u> Power and Energy Society General Meeting, 2011

Bresler, Frederick S. & Chen, Hong, <u>Practices on Real-Time Market Operation Evaluation</u>, <u>IET Generation, Transmission</u> <u>& Distribution</u>, 2010

Bresler, Frederick S. & Chen, Hong, <u>Risk Management in PJM's Market Operation</u>, <u>2008 IEEE Power and Energy Society General Meeting - Conversion and Delivery of Electrical Energy in the 21st Century</u>, 2008

Bresler, Frederick S. et. al., <u>Market Based Regulation for the PJM Electricity Market</u>, <u>PICA 2001. Innovative Computing</u> for Power - Electric Energy Meets the Market. 22nd IEEE Power Engineering Society. International Conference on <u>Power Industry Computer Applications (Cat. No.01CH37195)</u>, 2001