



Charles P. Salamone P.E.

Profession: Power systems analysis and assessment, with a special emphasis on transmission planning, performance and design

Nationality: U.S. Citizen

Years of Experience: 40 years

Education B.S.E.E, Power System Engineering, 1973
Gannon University, Erie, PA

Position: Owner/Manager, Cape Power Systems Consulting

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Summary: Mr. Salamone provides professional services based on 40 years of electric utility industry experience in the areas of Transmission Planning, Substation Planning, Distribution Planning, ISO-New England Planning Procedures, New England Power Pool Procedures, Congestion Management, Generator Interconnections, Planning/Capital Budget Management, Meter Engineering, and State (Mass DPU and New Jersey Rate Council) and Federal (FERC) Regulatory Agency Filing Development and Expert Witness Testimony

Experience:

2005- Pres. Cape Power Systems Consulting

Established a power system design, analysis, planning and assessment consulting company to work directly with diverse power system stakeholders.

- Worked with a number of clients for the development of analysis, reports and presentations in support of regulatory and technical review/approval process for transmission and distribution projects
- Provided technical assistance for transmission planning activities for an Independent System Operator including support for major transmission system expansion programs and development of a 10 year transmission plan
- Worked with a large Massachusetts Utility as an expert witness in support of State regulatory reviews for the siting of a major transmission system upgrade plan



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- Worked with state regulatory agencies in support of electric utility rate case proceedings including expert witness testimony and assessment of electric utility performance
- Worked with multiple state regulatory agencies in support of review of electric utility smart grid initiatives including review of the technical performance, system benefits and viability of proposed electric utility programs
- Developed and conducted a comprehensive training program for implementation of an Energy Management System (EMS) based transmission system security assessment application for a large Massachusetts utility
- Worked with clients to conduct load flow assessment of transmission system performance for feasibility and reliability performance studies across New England and New York

1979-2005 NSTAR (Previously Boston Edison and Commonwealth Electric)

2000-2005 *Director System Planning*

NSTAR (Previously Boston Edison and Commonwealth Electric) Boston, MA

- Responsible for long term planning of Company transmission, substation and distribution systems
- Successfully managed the studies, design, internal and external review and regulatory approval for a \$250M 345 kV underground transmission expansion project serving the greater Boston area
- Managed numerous generator interconnection studies, design and approvals
- Successfully managed studies, design and approval for congestion mitigation plans and expansion project
- Oversaw transmission and distribution planning efforts to establish a comprehensive 10 year \$300 million system expansion plan
- Served as Company representative on NEPOOL Reliability Committee and the New England Transmission Expansion Advisory Committee
- Served as Company expert witness for system planning related regulatory proceedings at both the state and federal levels.
- Supervised a staff of 10 senior engineers

1989-1999 *Manager, System Planning and Meter Services*

Commonwealth Electric Company, Wareham, MA

- Develop risk based prioritized \$10 million construction budget procedures
- Supervise a staff of 6 professional engineers and 4 analysts
- Served as chair of the NEPOOL Regional Transmission Planning Committee (currently the NEPOOL Reliability Committee)
- Process billing determinant and interval data for all major system customers
- Lead implementation of first MV90 meter data processing system
- Develop annual performance analysis reports for all transmission and major distribution systems



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- Manage multiple FERC tariff based transmission customer and generation developer system impact studies
- Served as expert Company witness in State and FERC regulatory proceedings
- Implemented a risk index for prioritization of all transmission and major distribution construction projects
- Implemented automated electronic processing of major customer billing data, which significantly reduced time needed to generate bills
- Served as lead member on information technology company merger team
- Implemented process and equipment to perform all tie line, generator and wholesale customer meter testing
- Served as chair of the NEPOOL Planning Process Subcommittee, which established numerous NEPOOL policies for transmission/generator owners
- Served as Vice-Chair of the NEPOOL Reliability Committee

1984-1989 ***Meter Engineer***

Commonwealth Electric Company, Plymouth, MA

- Designed and supervised installation of 15 generator meter data recorders
- Developed customer load plotting and analysis software
- Developed meter equipment order data processing system for four remote offices
- Implemented PC control of meter test boards, which significantly reduced processing and record keeping time
- Managed programming of all electronic meter registers to insure accurate data registration

1979-1984 ***Computer Application Engineer***

Commonwealth Electric Company, Wareham, MA

- Implemented numerous technical and analytical software applications for engineering analysis
- Served as member of decision team for implementation of a new SCADA system

1978-1979 ***San Diego Gas & Electric, Planning Engineer***

San Diego Gas & Electric Company, San Diego, CA

- Performed extensive stability analysis for a new 230 kV transmission interconnection with Mexico
- Performed transmission design and performance analysis for a new 250 mile 500 kV line from San Diego to Arizona

1973-1978 ***New England Gas & Electric Association, Planning Engineer***

New England Gas & Electric Association, Cambridge, MA

- Performed extensive stability analysis for a new 560 MW generating plant on Cape Cod
- Developed transmission plan for a new 345 kV transmission line on Cape Cod
- Developed plans for design and siting of new 115 / 23 kV substations on Cape Cod