

## **JAMES D. WHITAKER, PE**

### **EDUCATION**

B.S., Electrical Engineering, New Mexico State University, 1981

### **PROFESSIONAL REGISTRATIONS/CERTIFICATIONS**

Professional Engineer, Virginia, (#22965), 1992; Arizona (#26619), 1992

### **AREAS OF EXPERTISE**

Mr. James D. Whitaker, PE, has project management and technical experience in the following general areas:

- Bulk and Regional Power Transmission System Studies
- Generation Interconnection Studies (Gas, Coal, Wind, and Solar)
- Design and Specification of Back to Back HVDC Interconnections
- Substation Design (600 Volt through 500 kV)
- Distribution Line Design (Overhead and Underground)
- Distribution, Substation, and Transmission Construction
- Design and Installation of Uninterruptible Power Supplies (UPS) and Systems

### **REPRESENTATIVE EXPERIENCE**

Mr. Whitaker has over 21 years of experience and progressive responsibility in power system design, studies, and consulting. His qualifications include hands-on planning, field investigation and construction management, design, permitting, cost estimating, and project management. Mr. Whitaker's background includes studies and substation projects with major utilities, electric cooperatives, and large power users such as Aquila, Asarco, Virginia Power, Xcel Energy, Sunflower Electric Power Corporation, Tucson Electric Power, Chevron, Northern Virginia Electric Cooperative, Southwest Electric Cooperative, and Wheatland Electric Cooperative. He currently serves in the capacity of Senior Power Systems Engineer for the System Studies Division with responsibility for the development and study of client transmission systems.

### **PAST EMPLOYERS**

**September 2001 to October 2007:** Xcel Energy, Denver Colorado  
Transmission Planning Department - Senior Transmission Planning Engineer responsible for tariff related studies such as generator interconnection requests and transmission service requests in addition to providing studies to annually assess the state of the PSCo transmission system using PTI PSS/E and MUST software packages or GE PSLF software package. Member of the Western Electricity Coordinating Council (WECC) Reliability Subcommittee that develops and recommend criteria for power supply assessment and for such elements of system design and performance that affect the reliability of the interconnected bulk power systems.

**November 1999 to August 2001:** Peak Power Engineering – Electrical Consulting Engineer, Golden, Colorado  
Senior Project Engineer responsible for all phases of project coordination and engineering from concept through checkout. Projects range from small commercial power systems through 500 kV substations. Clients include major utilities, large consulting firms, electric cooperatives, municipalities, mining companies, oil and gas companies, and large commercial power users such as Waterpik and Petrocco Farms.

**January 1997 to October 1999:** Tucson Electric Power, Tucson, Arizona – Transmission Planning Department – Electrical Engineer in charge of monitoring TEP's compliance to various planning, reliability, and operating standards such as North American Electric Reliability Council (NERC) and Western States Coordinating Council (WSCC). Represented the company on various committees reporting to the WSCC and other regional planning committees. Monitored company compliance to long term and short term EHV transmission contracts. Assisted with coordination transmission line (138-345 kV) outages with System Controllers and construction and maintenance crews by conducting transmission load flow studies to determine required local generation. Conducted long and short range planning and operating studies for current and possible interconnections with other utilities.

**March 1992 to January 1997:** Substation Engineering Department – Worked as a Project Manager/Team Leader and Project Electrical Engineer for a variety of projects from new substations with their associated transmission lines and distribution lines to installing uninterrupted power systems (UPS's) for the company's System Control, Energy Management, and Supervisory Systems along other critical power areas throughout the company. Worked as a team member responsible for estimating and budgeting substation and transmission projects.

**August 1986 to March 1992:** Virginia Power, Richmond, Virginia - Substation and System Protection Department. Worked as a Project Engineer with projects ranging from substation maintenance to designing 500 KV substations. Substation maintenance projects include equipment replacements and improvements such as installing/replacing capacitor banks and designing 500 and 230 KV sparing buses along with reviewing and setting various distribution line and substation transformer relays. Substation design projects include voltage conversions and designing new Distribution, Industrial, and 500 kV switching stations. Assisted in project justifications by providing costs and coordinating information from other groups. I was responsible for providing specifications for substation site plans, surveys, and environmental impact statements. I also coordinated information for foundation and structural designs. I was personally responsible for coordinating all equipment, material, all electrical designs, and follow-ups before, during, and after construction with my projects.

### **SPECIALIZED TRAINING**

- Flexible AC Transmission System (FACTS) Devices – January 2007
- FERC Order 2004 – September 2004
- FERC Order 2003 – October 2003
- Wind Powered Generation Development and Design – August 2003
- Siemens-PTI PSS/E (Power System Load Flow) - May 2002
- Siemens-PTI MUST (Managing and Utilizing System Transmission) – March 2002
- Siemens-PTI Power System Dynamics – November 2002
- GE PSLF – August 1997
- Dynamics of Interconnected Power Systems – March 1997
- National Electric Safety Code – 1997
- National Electric Code (NEC) – 1995-1997
- Capacitor Switching Transients - 1994
- Substation Protective Relaying – 1991
- Substation Capacitor Bank Design – 1990

### **PROFESSIONAL AFFILIATIONS**

- International Institute of Electrical and Electronic Engineers (IEEE)
- National Society of Professional Engineers (NSPE)

### **SELECTED PRESENTATIONS**

Whitaker, James , "Transmission Activity in the Western US", Western LAMPAC (Labor and Management Public Affairs Committee) Spring Conference, Sandia Resort and Casino, Albuquerque, New Mexico, May 2007.

Whitaker, James D., "FERC Order 2003 Issues and Impacts on Xcel Energy", Rocky Mountain Electric League (RMEL) Transmission Issues Conference, Holiday Inn, Thorton, Colorado, March 2005.

Whitaker, James D., "The Transmission System In Colorado", Electrical Power Systems Seminar, Colorado School of Mines, January 2004