

# DAVID C. COTTON, JR., P.E., P. Eng., CEng, MIET

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## EXPERIENCE

**Director, RF Compliance (Principal Engineer), SiteSafe, VA-CO** **Jan. 2008 - Present**

- Review and Sign Electromagnetic Energy Compliance reports verifying cellular carrier compliance with FCC OET-65.
- Conduct AM station studies for new towers and site modifications
- Review and Sign Intermodulation Interference Reports
- Member of International Committee for Electromagnetic Safety (ICES)

**Owner, Mountain Wireless Engineering Services, UT-CO** **Oct. 2006 – Dec. 2007**

- Conducted RF Engineering Design for GSM, CDMA, and iDEN cell sites in California and Utah
- Used Atoll, PlanetEV, and Wizard Design Tools
- Provided Overall System Deployment Strategies for New Carriers
- Conducted RF Capacity Expansion and Future Planning for WY GSM network
- Trained AT&T personnel to use capital planning tool (Arieso)

**Project Engineer, Union Telephone Company, WY** **Oct. 2002 – Oct. 2006**

- GSM network implementation
- SIM Cards for GSM and GAIT implementation
- Wrote standard for GSM implementation in Lower 700 MHz spectrum (698-746 MHz)
- Conducted, implemented, and optimized network system design.
- Coordinated new GSM roaming agreements and trained existing staff to assume roaming coordination role

**Principal Member of Technical Staff, General Dynamics** **Dec. 2001 – Oct. 2002**

- RF Engineering Lead for AT&T/Cingular Joint Venture in Colorado, Utah, Arizona, New Mexico and Minnesota
- Approved and coordinated overall design for corridor coverage to –85 dbm
- Prepared RF Scopes of Work for Proposals, breaking down various tasks by hours per site, hours per person, and hours by Work Breakdown Structure.
- Interacted with Program Management and Pricing personnel to finalize proposals. Prepared staff briefings for overall RF planning and optimization process, including zoning support

**Senior RF Engineer, Consultant**

**Jul 1998 – Dec. 2001**

- September 2000-December 2001. Conducted design for AT&T in Connecticut and northern New York City suburbs using IS-136 technology in both cellular and PCS bands. Provided extensive zoning support including preparation of MPE studies and participating in zoning hearings at both the town and state level. In addition, made antenna recommendations for proposed GSM overlay of existing networks.
- January 2000-September 2000. Conducted design and site implementation in the Minneapolis MTA for network expansion using GSM technology. Design microwave paths.
- Fall 1999 - Cleared analog channels for Alltel in the Las Vegas MSA for eventual implementation of second CDMA carrier.
- November 1998 – September 1999 - Conducted optimization of GSM networks in Northern Michigan (Muskegon, Mt Pleasant) composed of AirNet infrastructure using Grayson and Radio Dynamics test equipment. Conducted site audits and established optimization procedures using the AirNet equipment for other markets. Processed drive test data and reports using MapInfo, Microsoft Access, and Microsoft Excel.
- July 1998 – November 1998 – Conducted optimization of CDMA network for Cellular One in Albuquerque, New Mexico.

**Senior RF Engineer, PriCellular Wireless Corporation**

**Jan. 1997 – Jul. 1998**

- Designed cell sites for 1997 and 1998 budget years in markets in Minnesota, Wisconsin, Michigan, Ohio, West Virginia, Pennsylvania, and New York.
- Initiated performance and drive test program in each market, improving cell and system performance.
- Engineered microwave paths for the Northeastern markets.
- Designed initial IS-136 rollout for the Duluth MN MSA

**Consultant, Lucent Technologies**

**Sept. 1996 – Jan. 1997**

- Led drive testing team and assisted Site Manager in the optimization of the Sprint PCS system in Denver.
- Using Qualcomm diagnostic equipment, optimized clusters for eventual system turnover to Sprint PCS.
- Identified system technical issues and setup data reduction capabilities for the optimization teams

**RF Engineer III, BellSouth Mobility DCS**

**Oct. 1994 – Sept. 1996**

- Designed PCS system for the Knoxville Major Trading Area (MTA) based on GSM technology.
- Generated search areas, approved sites, recommended antennas, and designed frequency plans.
- Conducted helicopter site testing for tall (>150ft) cell sites.
- Researched and recommended drive test equipment for the East Tennessee and Carolina regions. Automated site request procedures.

## **Air Force Officer, USAF**

**Winter 1984 - Summer 1992**

5<sup>th</sup> Combat Communications Group, Robins AFB, GA. September 1989 – September 1992. Established and designed mobile digital communications network using troposcatter, microwave and satellite transmission systems. During DESERT SHIELD/STORM, coordinated requirements of the allied air forces with stateside support organizations, setting requirements for a theater-wide computer network and weather reporting system. Served as communications staff officer to the commander of the allied air forces, monitoring the Air Force communications network, covering over twenty air bases and the deployed headquarters.

Electronics Systems Division, Hanscom AFB, MA. January 1984 – September 1989. Served as the lead test engineer for the Joint Program Office, Joint Tactical Distribution System (JTIDS), a TDMA-based data network for air and ground based forces providing information on theater aircraft and aircraft threat network, a \$6 billion program. Successful tests led to production decision by Secretary of Defense. As the Mobile Switch Program Manager (AN/TTC-39A), led effort to field over 40 mobile 744-line telephone switch used to support tactical air bases and deployed headquarters. Managed technical, financial, logistical, and configuration management issues for the project.

## **EDUCATION & AFFILIATIONS**

**Masters of Science, Telecommunications/Masters of Engineering, Engineering Management**, University of Colorado, May 2012

**Bachelor of Science, Electrical Engineering**, University of Connecticut, Dec. 1983

**Systems Engineering (PhD) Student**, Colorado State University, 2015-2020 (Projected)

**Squadron Officer's School**, Air University, Maxwell Air Force Base, May 1988

**Professional Engineer (US):** Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming

Model Law Engineer, NCEES

Member, National Society of Professional Engineers (NSPE)

### **Professional Engineer (Canada):**

Association of Professional Engineers and Geoscientists of Alberta (APEGA)

Association of Professional Engineers and Geoscientists of British Columbia (APEGBC)

Professional Engineers Ontario (PEO)

Association of Professional Engineers and Geoscientists of Saskatchewan (APEGGS)

### **Chartered Engineer (United Kingdom):**

Member, Institution of Engineering and Technology (IET)

International Professional Registration Advisor (IPRA)

Former Finance Chair, Americas Region

Senior Member, IEEE (Communications Society, Standards Association)

Section Chair, Pikes Peak Section (IEEE)

Member, Licensure and Registration Committee (IEEE-USA)

Member, IEEE-ICES (International Committee on Electromagnetic Safety)

Member, The Bioelectromagnetics Society (BEMS)

Member, Electrical and Computer Exam Committee (NCEES)

Commissioner, Teller County (Colorado) Planning Commission