



## EARLE C. (RUSTY) BASCOM, III – PRINCIPAL ENGINEER

Rusty Bascom holds a Bachelor's of Science (1989) and Master's of Engineering (1990) degrees in Electric Power Engineering from Rensselaer Polytechnic Institute. He also holds an A.S. in Engineering Science (1987) from Hudson Valley Community College, and an MBA (1993) from the State University of New York.

While completing studies for his Master's of Engineering degree, Mr. Bascom worked in the Software Products Department of Power Technologies, Inc. to develop time over-current and distance relay software for PSS/E. He joined PTI's Underground Cable Systems group in 1990 as an Analytical Engineer where he spent nine years gaining experience in the T&D Technology and System Planning & Operations departments while focusing on underground and submarine cable applications and technologies. Mr. Bascom was with Power Delivery Consultants from 1999 to 2010 where he continued specializing in the underground cable systems, providing support to utility and research projects, and coordinating all of PDC's short courses and educational accreditation with IACET and the Florida Board of Professional Engineers.

Mr. Bascom co-founded Electrical Consulting Engineers in 2010. As company President and Principal Engineer, he specializes in studies including the following areas:

- Design, specification preparation, bid review, quality assurance field installation observer, and support of commissioning of new underground transmission circuits, including hybrid overhead-underground lines
- Cable engineering design for horizontal directional drilled projects, including feasibility studies
- Factory testing witness and certification for new cable systems and factory acceptance tests
- Magnetic field analysis and mitigation
- Ampacity audits for upgrading cable circuits, including the use of distributed temperature sensing (DTS) equipment and techniques
- Costing studies and budgetary evaluations of underground cable alternatives up to 500kV
- Forced cooling, and slow and rapid circulation analyses for pipe-type cables
- Research projects involving underground cables

During his career, Mr. Bascom has developed analytical methods used for the analysis and design of power equipment. Some of these methods were incorporated in tools such as cable ampacity software for General Electric, pulling-tension software for Con Edison of New York, and circuit breaker coordination, costing and fault software for a joint venture by Alcan and Square D. He has also developed some of ECE's in-house analytical tools for ampacity, pulling tension, magnetic field and forced cooling analyses.

Mr. Bascom has been involved in several research projects for the Electric Power Research Institute including development of the EPRIGEMS<sup>®</sup> Cable Ampacity Tutorial, Alternative Cable Evaluation (ACE) program, Power Transformer Analysis (PTLOAD) system, authoring an expert system and reference manual for underground cable fault location, as Principal Investigator for the UTWorkstation and developer of the underground and aerial cable models in the Dynamic Thermal Circuit Rating (DTCR) system. Mr. Bascom was a reviewer of the 1992 edition of EPRI's *Underground Transmission Systems Reference Book* and principal author of the ampacity chapter in the 2006 edition.

Mr. Bascom has instructed short courses for the University of Pennsylvania, Power Delivery Consultants, Siemens and Pterra Consulting involving cable system design, upgrading, analytical techniques, and hybrid (underground and overhead) line design. He is a Senior Member of the IEEE, its Power & Energy Society and Standards Association, a voting member of the Insulated Conductors Committee (ICC), a member of CIGRÉ and the U.S. representative for Working Group B1.35, and a past member of the National Association of Corrosion Engineers (NACE). Mr. Bascom co-authored the cable systems chapter in the 14<sup>th</sup> and 15<sup>th</sup> editions of the McGraw-Hill *Standard Handbook for Electrical Engineers* and is active in several ICC working groups, has contributed to the development of IEEE guides and standards including being chairman of ICC C8W to develop a standard for AC cable systems above 161kV and was co-chairman of ICC WG 7-41, Transmission Cable Operations Report. Mr. Bascom is a registered Professional Engineer in New York, Florida and Texas and the author of over 40 technical papers and publications. He holds 1 patent.

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