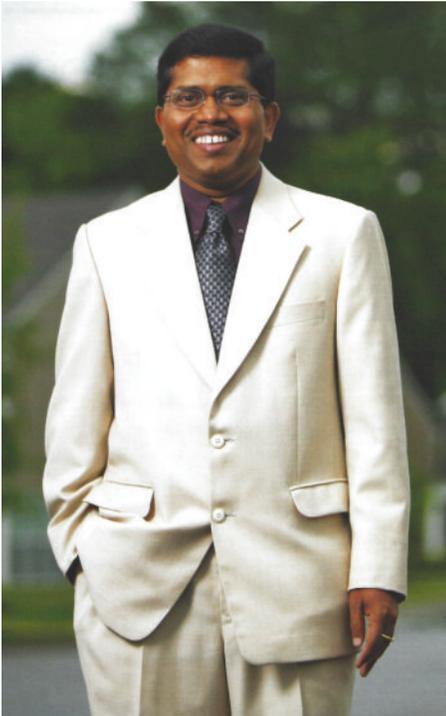


Dr. Prasad Yenumula Brims with Energy and Enthusiasm



Credit: University of Phoenix

Regular readers of this magazine were introduced to Prasad Yenumula, Ph.D., MBA, P.Eng., in a July/August 2019 feature article about challenges facing deep foundations for the U.S. power grid. The article on pp. 83-86 described a panel discussion conducted at DFI's 2018 Annual Conference on the subject. The panelists represented the utility, design consulting, construction and contracting, and research communities. Yenumula, who is a member of DFI's Electric Power Systems Foundation Committee, represented the U.S. electric utilities' perspective on issues presented. The session was entitled, "Shortcomings of the Design of Electric Systems Foundations."

Yenumula is the principal engineer, Transmission Line Engineering Standards at Duke Energy, Raleigh, North Carolina. In the aforementioned discussion, he pointed out that one of the problems with the lack of standardization in the design of

deep foundations for transmission lines is that the National Electrical Safety Code (NESC) does not address deep foundations at all. As a leading designer and researcher of foundations in the utility industry in the U.S. and Canada for 23 years, he knows of what he speaks. He noted that, "We need to bring consensus to guidance documents dealing with foundation design in the electric utility industry because the current practices vary from utility to utility."

In terms of the importance of his role in the utility industry, it is worth pointing out that Duke Energy owns 51,000 MW (51 million kW) of electric generation capacity, 31,000 mi (49,890 km) of transmission lines and 280,000 mi (450,616 km) of distribution lines in the U.S. The utility of 30,000 employees serves 7.7 million retail electricity customers in six states in a service area of 95,000 sq mi (246,048 sq km). As the lead foundation subject matter expert at Duke Energy, that is a lot for which to be responsible. Yenumula is definitely up to the task.

A Career Is Born

When asked what caused him to pursue a career in geotechnical engineering, he recounts, "It all started during my master's program at the Indian Institute of Technology (IIT). At this premier school, I had the opportunity to interact with experts and expose myself to the real-world challenges geotechnical engineers face every day. I enjoy learning something new, teaching what I know and solving challenging problems. This specialty area satisfied everything that I was looking for in my career path."

He credits his entire family, teachers and fellow students as having a great influence on his going forward with his education, which in the early stages presented a heavy financial burden on his parents. This collective support and

encouragement, and as he puts it, "love," contributed to his excelling throughout.

He is most appreciative of the mentorship of Dr. S. Narasimha Rao, his teacher and research supervisor at IIT, whom he noted "had an immense influence on my higher studies and career path."

Accomplishments Accrue

Yenumula came to the U.S. after studying and working in India and Canada. He received his B.E. degree from Andhra University, Visakhapatnam, India. He went on to complete his master's and his Ph.D. at IIT in Madras. That was followed by a postdoctoral fellowship at the Memorial University of Newfoundland, Canada. He later completed an MBA at the University of Phoenix in Milwaukee, Wisconsin.

In addition to his position at Duke Energy, Yenumula is an adjunct professor at Gonzaga University in Spokane, Washington. He has also taught business students within the University of Phoenix system.

Marrying the fields of civil engineering and business provides him with a unique perspective of how the overall industry functions. Yenumula believes that it is important to put theory into practice. He feels that while research is critically important, the key is to apply what we have learned in the lab and in field studies to real-world situations. His ability to communicate this belief and to motivate his students is why he is a much-admired professor. He has won multiple Outstanding Teaching Awards, confirming the high regard in which he is held by his students.

Professional Activities and Achievements

Yenumula's commitment to advancing the state of the practice in the field of foundations in the utility industry is evidenced not only by his daily work, but by his writings, technical conference

lectures and white papers. He is the current chair of the Electric Power Research Institute's (EPRI) Overhead Transmission Design Task Force. He is the secretary of ASCE's Design of Overhead Line and Substation Foundations Subcommittee, and an executive committee member and past chairman of the Centre for Energy Advancement through Technological Innovation-TODEM Interest Group.

Through his participation in such organizations, Yenumula assists in the writing of foundation standards for the utility industry, a much-needed undertaking. In addition, he is Duke Energy's industry advisor to a wide range of standard-setting entities.

Jean-Pierre Marais, principle technical leader at EPRI, notes of Yenumula's role chairing their international committee of subject matter experts representing utilities, "He has been instrumental in providing active guidance and assistance in identifying key research initiatives. What I appreciate about Prasad is his passion and dedication to the science of transmission line design, and his honest and humble approach."

While doing all of this, Yenumula also managed to co-author a much referenced text book, *Design of Electrical Transmission Lines-Structures and Foundations* (CRC Press, 2017). His work has also been acknowledged and honored by multiple organizations, garnering him 20 awards for research and teaching.

Jilliene McKinstry, assistant director of the T&D Engineering program at Gonzaga, puts it this way, "As a founding faculty member of the program, Dr. Yenumula has been an integral part of Gonzaga University's Transmission and Distribution graduate program for more than 10 years. His gift for teaching has informed how we create a dynamic learning environment. His courses in the area of transmission line structures and foundations are always the highest rated by our students, reflecting his ability to engage students and his passion for teaching the next generation of power engineers."

Meeting a Critical Need

Yenumula has found that participation in DFI provides an excellent opportunity to utilize the collective expertise of its members in developing standards for foundations in the utility industry, a major thrust of his work. He notes that serving on DFI's Electric Power Systems Foundations Committee, helping develop white papers, making keynote presentations at conferences and being a part of an industry-wide effort has been particularly rewarding. He feels that "the need for a new foundation design standard is paramount, as current practices lead to expensive and/or inconsistent design."

A Final Thought

When he is not engaged in his many work and volunteer activities, he enjoys gardening, following international news and traveling with his family, both in the U.S. and abroad.

When it comes to guidance he offers to his students and to his colleagues, he smiles and says, "Never stop learning. If you stop learning you stop growing, if you stop growing you can't move on to bigger and better things."

We need not worry about him following his own advice. Dr. Yenumula's life is a testament to this guiding principle.

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