



IEEE Columbus Power & Energy Society January 19th Program

Date: Thursday, Jan. 19th, 2017

Refreshments: 5:30 to 6:00 PM

Presentation: 6:00 to 7:00 PM

Earn 1.0 CPD Hours

Location: AEP Ohio Office, Conference Room 2G, 700 Morrison Road, Gahanna, Ohio 43230

Title: “More Accurate and Optimized Substation Grounding Study Methodologies”

Abstract: This seminar will introduce hands-on solid modeling experience of the safe, optimal ground grid design for a large Extra High Voltage (EHV) substation. The optimized ground grid meets the IEEE-80 standards for safety without compromising on step or touch potential thresholds. The ground grid has been designed in CDEGS software using fault current flow concepts, with multiple injection points simulating the actual conditions and fault currents at the substation. In addition, the new clearing time analysis and grounding study safety assessment strategy are implemented. The method focuses on substation specific data to perform substation grounding studies and does not assume the fault current split factors, or utilize the IEEE-80 curves. The method is conceptually correct, meets safety requirements, and leads to copper savings. Thus, a safe and cost-optimized ground grid for an EHV station is achievable.

Presenters:



Xuan Wu received the BS degree in EE from Nanjing University of Aeronautics and Astronautics, Nanjing, China in 2011 and the MS degree in EE from Arizona State University, Tempe, in 2013. Right now he is working as a Station Design Standards Engineer at American Electric Power and a part-time Ph.D student at The Ohio State University. His research interests include electromagnetic & electrostatic coupling effects, substation fault analysis and grounding design and transmission/operation planning. He has contributed to several utility guidelines and published more than ten journal/conference papers in power system transmission areas. Xuan is an IEEE member and treasurer of IEEE PES Columbus Chapter.



Vinod Simha received his B.S. and M.S. degrees in Electrical Engineering from B.M.S. College of Engineering Bangalore, India and University of Texas at Arlington, USA in 2001 and 2005, respectively. He has designed low voltage switchgear and switchboards for OEMs, simulated load flow studies for Transmission Planning. He is a Principal Engineer in Station Engineering Design Standards at AEP, and enjoys computer simulation in grounding, induced voltage, and fuse co-ordination and other substation engineering topics. He is a Registered Professional Engineer in the State of Ohio, and a Senior Member of the IEEE and IEEE-SA.

Please RSVP by Jan. 17th to Jerod Marker at jrmarker@aep.com or 614-552-1409

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