Peter E. Sutherland (S'77, M'79, SM'97, F' 07) received the A.S. degree in Electrical Engineering Technology and the B.S. degree in Electrical Engineering from the University of Maine, Orono, the M.Sc.E. degree in electrical engineering from the University of New Brunswick, Fredericton, N.B., Canada, and the Ph.D. degree in Electric Power Engineering at Rensselaer Polytechnic Institute, Troy, NY.
For over twenty years, Dr. Sutherland has specialized in electrical power system studies, teaching and research. After joining GE in 1987, he led a wide variety of power system studies. These included short circuit, protective device coordination, generator protection, load flow, harmonic measurement, harmonic analysis, harmonic filter design, transient stability, load shedding and others for industrial, commercial, institutional and electric utility clients. He worked in GE's Industrial Power Systems Engineering Operation (1987-89), in the Albany office of Installation and Service Engineering (1993-96) and in Power Systems Energy Consulting (1996-2001). He taught in both the GE Power Systems Engineering Course and at the GE Training and Development Center (1989-92), where he developed courses in Industrial Power Systems and Protective Relaying. He earned a Six Sigma Green Belt certification. While studying at night, he earned his doctorate at Rensselaer Polytechnic Institute. In 2005, he rejoined GE Energy Services as a Senior Power Systems Engineer, where he is a specialist in advanced power system studies.
Dr. Sutherland has also worked at EPRI Solutions, Inc, where he performed research and consulting on electric utility distribution systems. At Superpower, Inc., Dr. Sutherland performed research on superconducting fault current limiters and cables. He has also been employed as an engineer at an electric utility company and in the electronics industry.

Dr. Sutherland is a Fellow of the IEEE. Dr. Sutherland has over thirty publications, including over twelve refereed journal articles, and one patent. He is active in the IEEE Industry Applications Society, where he has been chair of the Power Systems Engineering Committee. He is currently Vice-chair Technical for I&CPS and Chair of the Power Systems Design Editorial Working Group. He is active in the IEEE Schenectady Section where he has been Chair and held many other positions. He is a member of the IEEE Power Engineering Society, the IET (London), CIGRE (Paris) and the Association of Energy Engineers (AEE). He is a Registered Professional Engineer in the states of New York, New Jersey, Pennsylvania and Maine, and is a Chartered Engineer in the UK. His biography has appeared in Marquis Who's Who in America and other publications. He is a Certified Energy Manager.

Currently, Dr. Sutherland is a Senior Power Systems Engineer at GE Energy Industrial Solutions.

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Lecture Topics

1. Human Response to Electrical Stimuli.
   - Electrical characteristics of the body.
   - Human and animal sensitivities to electric current.
   - Human body impedance.
   - Effects of various exposure conditions.
   - Bare feet, wet conditions and other variations.
   - Shoes and other insulated objects and the earth.
   - Current paths through the body.
   - Time intervals for various exposure conditions.

2. Electrical Arc Flash Hazards - Is your company in compliance?
   - Arc flash risks and effects.
   - Arc flash approach boundaries.
   - Arc flash hazard calculations: NFPA 70E Tables and IEEE Standard 1584-2002.
   - Arc flash categories & protective clothing.
   - Arc flash labels and permits.

3. Harmonics Assessment in Industrial Power Systems.
   - Harmonic measurements for filter design and capacitor bank application.
   - Harmonic measurements for filter and capacitor bank installation.
   - Harmonic measurements for compliance with utility and IEEE 519-1992 requirements.
   - Selection of harmonic measurement points.
   -Harmonic measurement techniques: transducers, instrument input interface, harmonic analyzers.
   - Evaluation of harmonic measurement results