

## Plenary A

Date Monday, October 13, 11:00 – 12:30  
Venue SDKM, ITU

### Future Trends in Smart Grid



**Chair: Damir Novosel**, Quanta Technology, USA.

Damir Novosel (SM 1994, F 2003) is president of Quanta Technology. Previously, he was vice president of ABB Automation Products and president of KEMA T&D US. He is elected to National Academy of Engineers in 2014. Dr. Novosel is IEEE PES President Elect. He served as chair of the PES Technical Council, vice president of technology, and a member of the PES Governing Board from 2010 to 2012. Damir is also member of the CIGRE US National Committee. Damir holds 16 US and international patents and published over 100 articles in Transactions, Journals and Proceedings, receiving PES 2011 and 2013 Prize Paper Awards. Damir has led or participated in numerous IEEE standards, publications and other initiatives, such as keynotes and panels. Damir has been continuing contributor to education, including an adjunct professorship of Electrical Engineering at North Carolina State University, sponsorship of college scholarship programs, and support to industry courses and tutorials. He holds PhD, MSc, and BS degrees in electrical engineering from Mississippi State University, where he was a Fulbright scholar, the University of Zagreb, Croatia, and University of Tuzla, Bosnia and Herzegovina, respectively.



### Transitioning to the Grid of the Future

**Wanda Reder**, VP – Power Systems Solutions, S&C Electric Company

Wanda Reder is the Vice President of the Power Systems Solutions at S&C Electric Company. In her role she oversees the activity for S&C to design, integrate and install self-healing distribution technologies, develop microgrids, and interconnect renewable and storage facilities. An exemplary volunteer leader, Wanda Reder's initiatives as president of the IEEE Power and Energy Society in helped grow membership, established a successful scholarship fund, and positioned IEEE as the source for expert information on smart grid technology. The first woman to serve as President of the IEEE Power and Energy Society, Wanda's trendsetting programs instituted during her 2008-2009 tenure have served as models for other IEEE Societies and organizations. She currently serves on the IEEE Board of Directors representing Division VII and is also a member of the IEEE Foundation Board. Wanda is the recipient of the IEEE Emberson Award, an IEEE Fellow and a recognized leader in the power industry. She serves on the US Department of Energy's Electricity Advisory Committee as a US Secretary Appointee where she chairs the Smart Grid Sub-Committee and the Workforce Ad-Hoc Committee.



## **RTE and TSOs as key players of the Smart Grids Deployment in Europe**

**Michel Béna**, Smart Grids Director for RTE, the French TSO.

Michel Béna has been Smart Grids Director for RTE, the French TSO, since 2012. He's in charge of the involvement of RTE in technical pilot projects and in the discussions around the evolution of the French Electric System related to Smart Grids. Before that, he's been working in power system transmission R&D field, such as long term planning, dynamic security and voltage control. He graduated from SUPELEC (1990).



## **How one state in the US (Vermont) is integrating Smart Grid technologies into daily operations**

**Chris Root**, The Chief Operating Officer for Vermont Electric Power Company

Mr. Root has over 30 years of utility operations and engineering leadership experience. He is currently the Chief Operating Officer for Vermont Electric Power Company in Rutland, VT. He is responsible for the engineering, construction and operation of the transmission system in the state of Vermont. Previously, he was the Senior Vice President of Network Strategy at National Grid responsible for engineering and asset management of the electric and gas networks in the US. He was a Senior VP for 17 years in various roles in Transmission and Distribution Operations, Engineering and Construction. He oversaw several operational mergers and was Emergency Director for over 70 significant events through the years. Mr. Root has a BS in Electrical Engineering from Northeastern University and a MEng in Electric Power Engineering from Rensselaer Polytechnic Institute. He attended the Program for Management Development at the Harvard Business School. Mr. Root is a registered Professional Engineer in the states of MA and RI.



## **Grid modernization and the role of photovoltaics**

**Miroslav Begovic**, University Center of Excellence in Photovoltaic Research at Georgia Tech.

Dr. Miroslav M. Begovic is a Professor in the School of Electrical and Computer Engineering and a faculty member of the University Center of Excellence in Photovoltaic Research at Georgia Tech, one of two such centers in the United States. He received a PhD from Virginia Tech and MS and Dipl. Ing. from Belgrade University. His research interests are in monitoring, analysis, and control of power systems, as well as development and applications of renewable and sustainable energy systems. Dr. Begovic has published over 125 publications and completed numerous research projects during his career at Georgia Tech. He has been a member of the IEEE PES Power System Relaying Committee for two decades and chaired many of its working groups. Dr. Begovic is currently a Chair of the Electric Energy Technical Interest Group at Georgia Tech., former Chair of the Emerging Technologies Coordinating Committee of IEEE PES, member of the IEEE Smart Grid Task Force, IEEE PES Distinguished Lecturer, and Treasurer of the IEEE Power and Energy Society in 2010-2011 and candidate for IEEE Power and Energy Society President. He is a Fellow of the IEEE and member of Sigma Xi, Eta Kappa.



## Power flow control in transmission network

**Frank Lambert**, Associate Director of NEETRAC at Georgia Tech.

Frank C. Lambert (S'70-M'73-SM'87) Mr. Lambert serves as the Associate Director of the National Electric Energy Testing Research and applications Center (NEETRAC) at Georgia Tech (Atlanta). He is responsible for interfacing with NEETRAC's members to develop and conduct research projects dealing with transmission and distribution issues. Mr. Lambert previously worked at Georgia Power Company for 22 years in transmission / distribution system design, construction, operation, maintenance and automation. He participates in the IEEE PES Distribution Subcommittee and the PES Switchgear Committee and is serving on the PES Governing Board as the Vice President for Chapters. Mr. Lambert holds a bachelors and M.S. degree in Electrical Engineering from the Georgia Institute of Technology

**Plenary Abstract:** Reliable and efficient electrical grid operation is critical to society. Electrical utility industry has been experiencing significant changes in the last decade caused by new technology trends, environmental drivers and weather patterns, changing public needs, and regulatory requirements. The electrical power and energy industry in the next decades will be different than it is today to meet the demands of the society and address challenges. As "Smart Grid" technologies are required to manage grid complexity, there have been a number of 'smart grid' deployment initiatives world-wide. This plenary panel includes technology and business leaders that address holistic trends and initiatives to achieve smart grid of the future that will allow our industry to optimally and cost-effectively manage the grid.

After initial introduction by panel chair on industry trends, our panel will address key factors required to transition to the future grid by IEEE PES leader in smart grids **Wanda Reder** from S&C. **Michel Bena**, from RTE, will continue by providing the European perspective on how to deploy smart grids through leadership of TSOs and in particular RTE. Industry business leader **Chris Root** from VELCO will continue with providing the utility perspective on how the US state of Vermont integrates smart grid technologies into daily operations. Our next panelist is IEEE PES President, Dr. **Miroslav Begovic**, who will discuss how renewables technologies in distribution systems, such as photovoltaics participate in grid modernization. The panel presentations will conclude with **Frank Lambert** from Georgia Institute of Technology addressing how smart grid technologies such as power flow controllers enable transmission smart grid.