



IEEE POWER & ENERGY SOCIETY
2013 GENERAL MEETING
Super Sessions at a Glance

DAY / TIME / LOCATION	SESSION NAME AND DESCRIPTION	PG
Tuesday 23 July 8:00 AM–12:00 PM VCC East – East Meeting Room 1 and Foyer	<p>Late Breaking News Super Session: Managing Extreme Events and Developments Affecting Electrical Power Systems</p> <p><i>Session 1:</i> Mike Henderson – Challenges and Solutions for Gas and Electrical Interaction Chris Root – Northeast Storm Experience and Improvements Tom Gwaltney, FP&L – Storm Hardening and Preparedness Gregg Lemler, PG&E – Hardening Grid against Vandalism - Metcalf Substation Event Tom Pierpoint, PHI – Technology Innovations to Improve Response to Extreme Events Panel Discussion</p> <p><i>Session 2:</i> Vic Romero, SDG&E – Using Microgrids for Disaster Recovery Juan Castaneda / Bob Yinger, SCE – Modeling and Simulating High Impact System Events Cheri Warren, NGrid – Innovation in Customer Communication during Big Events S. C. Srivastava, Indian Institute of Technology Kanpur – Lessons Learnt from Indian Blackout and Future Solutions Panel Discussion</p>	100
Tuesday 23 July 1:00 PM–5:00 PM VCC East – East Meeting Room 1 and Foyer	<p>Impacts of Geomagnetic Disturbance (GMD) Events on Electric Power Systems</p> <p>Topics that will be discussed in this session include:</p> <p>Jeff Dagle – Pacific Northwest Labs – Geomagnetic Storms and Long-Term Impacts on Power Systems – No super session paper, but PNNL has a paper that studied the effects on the WECC system Emanuel E. Bernabeu – Dominion Power – He will present his work on understanding the impacts on their equipment John Kappenman – Storm Analysis Consultants – He will present his work described in the FERC Meta 322 report on mitigation strategies and updated work he has on mitigation strategies Ramsis Girgis – ABB St. Louis – Dr. Girgis - Methodology for Evaluating the Impact of GIC and GIC Capability of Power Transformer Designs</p>	116
Wednesday 24 July 8:00 AM–12:00 PM VCC East – East Meeting Room 1 and Foyer	<p>Innovation and Advancements in Protection, Automation and Control for Evolving Power Systems</p> <p><i>Presentations</i></p> <ol style="list-style-type: none"> 1. Implementation of an Integrated OMS/DMS at San Diego Gas and Electric, presented by Vic Romero, San Diego Gas and Electric 2. Standard Profile for Use of IEEE Standard 1588-2008 Precision Time Protocol (PTP) in Power System Applications, presented by Galina Antonova, ABB 3. Summary Changes in 2013 IEEE/IEC Dual Logo COMTRADE Standard, presented by Ratan Das, ABB 4. Synchrophasor Standards and Guides for the Smart Grid, presented by Ken Martin, Electric Power Group 5. Optimizing Wide Area Measurement System Architectures with Advancements in Phasor Data Concentrators (PDCs), presented by Mital Kanabar, GE Digital Energy 6. Wide-Area Backup Fault Protection with Synchrophasors, presented by Eric Udren, Quanta Technology 7. Impact of IEC 61850 on the Interoperability and Reliability of Protection Schemes, presented by Alex Apostolov, Omicron 	133

(Continued)

Super Sessions at a Glance, *continued*

<p>Wednesday 24 July 1:00 PM–5:00 PM VCC East – East Meeting Room 1 and Foyer</p>	<p>Electricity Supply to Rural and Remote Communities</p> <p>Access to electricity is an essential catalyst for social and economic development. There is global interest to achieve universal access to electricity in 2030, with important technological, social and cost implications. The session aims to give an overall view of the dimensions of sustainable electricity supply to rural and remote communities. In industrialized countries, though demand is still but modestly increasing, the emphasis is on maintaining electricity services and adapting existing rural grids to emerging technologies. Developing countries face a rather large demand growth and their emphasis is on creating an appropriate electric service and rural power system. The presentations will share different global electrification challenges, covering concrete experiences in Canada, Chile, India, US, and Zambia, providing insights into the lessons learned and the critical success factors, such as the institutional conditions and legislation, the business environment, and the political and social conditions. Both grid-based and off-grid solutions will be reviewed.</p>	148
<p>Thursday 25 July 8:00 AM–12:00 PM VCC East – East Meeting Room 2, 3 & Foyer</p>	<p>Transmission System Efficiency and Reliability Improvements</p> <p>Reducing the carbon footprint of the electricity business and increasing the role of renewable energy are crucial strategy components for developing a sustainable electric energy supply. Achieving aggressive carbon-reduction goals while ensuring reliability and satisfying demand requires that transmission system owners and operators evaluate their systems for efficiency improvements. Contributions from transmission systems can be achieved through deployment of measures that directly reduce transmission losses, as well as measures that reduce CO₂ emissions via increased system utilization, opening access on lines for providers to meet renewable targets and deliver energy from generation sources that are less carbon-intensive, such as wind and solar. Increased utilization of the transmission system and of large amounts of variable generation also introduce potential reliability challenges that must be simultaneously addressed. Presenters in this panel session will address key initiatives that are being considered to improve transmission system efficiency and reliability to achieve sustainability goals.</p>	162
<p>Thursday 25 July 8:00 AM–12:00 PM VCC East – East Meeting Room 1 and Foyer</p>	<p>Generation Mix Strategies: Solving Energy Production Challenges of the 21st Century</p> <p>Topics that will be discussed in this session include:</p> <ul style="list-style-type: none"> Evolution of the Future Generation Mix, Charlie Smith, UVIG, USA Effects of Natural Gas Pricing in New England, Michael Henderson, ISO-NE, USA The Potential Role of Small Lead Cooled Reactors in the Global Energy Mix, Janne Wallenius, KTH, Sweden High Penetration of Distributed Generation and Its Impact on Security and Reliability of Grid, Bartosz Wojszczyk, GE, Digital Energy Do New Generation Mixes Lead to the Need for Probabilistic Planning and Operating Tools? Mark O'Malley, UCD, Ireland Emissions Policies and the Impact to Power Generation Investment: The Case of Alberta, John Esaiw, AESO, Alberta, Canada 	163