SESSION TITLE:

Outsmarting Outages: In the face of growing demand and a changing climate, what is efficiency's role in ensuring grid reliability?

SPEAKER SUMMARIES:

Roger Duncan, Chairman, Pecan Street Project

- As a former CEO of an electric utility, Duncan has watched reliability become a major issue with disruptive weather events and increasing demand on the grid. Mr. Duncan focused the innovations of demand response and the work that his organization, Pecan Street Project, has been done in partnership with Austin Energy.

John Norris, Commissioner, Federal Energy Regulatory Commission

- Commissioner Norris believes that grid reliability can contribute to energy efficiency. He emphasized FERC's position that energy efficiency's primary role to reduce energy consumption while preserving a superior level of service.

Hank Courtright, Senior Vice President for Global Strategy & External Relations, Electric Power Research Institute

- Courtright focused his remarks on the concepts of prevention, recovery, and survivability. He emphasized the role of renewables and efficient technologies in providing sustainable power in times of peak demand and service disruption in times of natural disasters.

Lisa Wood, Executive Director, IEE

- As the Executive Director of IEE, Wood emphasized the tremendous growth in efficiency and demand response to improve grid reliability and resiliency. She also explored the potential for distributed generation, particularly in countries where demand is increasing outpacing supply.

Jim Madej, SVP, Chief Customer Officer, National Grid

- Madej underscored two opportunities for energy efficiency tp ensure grid relability: demand response and distributed generation. He discussed the multitude of projects and technologies that National Grid is deploying in its service territory including Massachusetts, New Hampshire, New York, and Rhode Island.

SESSION WRAP-UP

Thought-leaders in Outsmarting Outages highlighted the interplay between energy efficiency and creating a more flexible, resilient and connected grid. Speakers highlighted the growing need for partnerships to create demand response systems that can respond to peak loads and critical system disruptions. The session also shed light on the potential barriers to creating a network of distributed generation. Finally, speakers discussed the opportunities and potential challenges to create a more dynamic, durable, and efficient smart grid of the future.

A key theme of the conversation with the amount of big data and information in the marketplace. With the advent of smart, connective devices session participants asked panelist how to best leverage this information to make the system more energy-efficient and furthermore, how to incentize consumers to share even more data.

Madej shared that National Grid is part of the data evolution. National Grid is strengthening its analytics function and has employed nine PhD's to better target it demand response and smart grid programs to suite its customers' needs. He added that the concept of energy efficiency needs to be expanded to include optimization which is an integral element of reliability of the grid.

Courtright of Electric Power Research Institute believes that the utilities should be using a "prices to devices approach." By creating price signals and giving customers more up to the minute information about their usage, the market may be able to increase efficiency by reducing the load on the grid during peak hours.

Session participants also asked the panelists, "Utilities are interested in flexibility, resiliency and connectivity. What do those mean to you?" Courtright of Electric Power Research Institute commented that energy efficiency needs to go beyond the grid and being to decontextualize the existing power-system. The trend towards distributed generation means that in the future there may be millions of sites where power is generated. There will be different demands on the traditional energy and natural gas supply chains. Power plants particularly need to get ready for the future of power generation and be able to by resilient and flexible, ramping up and down their supply as demand shifts. Wood of IEE added that it will be important to integrate our existing central supply, new distributed generation, consumer demand and two-way distribution in to a new, seamless energy system and framework. All thought leaders agreed that in order for distributed generation to be successful, careful planning, coordination, and innovative financing be needed to achieve a secure, resilient and efficient grid.

Session partipants also asked about the future of demand response. In particular, partipants asked utilities to clarify the role of utilities in managing the relationship betweeen third-party demand response aggregators and consumers.

Madej from the National Grid stated that the utlity need to facilitate the market. As a trusted energy advisory, aggregators are only managing a sliver of the piece. Utilites work across the industry to bring all the pieces together. Wood of IEE agreed that utilites need to have a strong role in demand management and work with their utility commissions to best advocate for the needs of utility customers.

In closing comments all partipants agreed that the electric grid is rapidly changing. Better and more coordinated planning is needed to create a better, smarter transmission system that can handle the two-way flow of distributed generation and the robust ability to adjust to peak loads through demand response. This careful coordination and planning will result in a 21st century grid that supports a more energy efficient world.