Tuesday, April 30, 2013

8:00-9:00 *Registration & Networking Breakfast*

9:00 – 9:15 *Opening Remarks by Summit Chair*
David Chiesa, *Manager, Business Development*

Session I: Enhancing Energy Security & Resiliency

9:15-9:45 *Industry Briefing:*
Microgrid Market Opportunities, Trends and Segments
This presentation provides forecasts for the following microgrid segments: campus environment, military, remote, and utility distribution microgrids. Major market players will also be profiled, along with key market barriers and opportunities for microgrids within specific segments.
Presenter:
Peter Asmus, *Senior Analyst,* PIKE RESEARCH

9:45-10:30 *Keynote Presentation:*
Microgrids in Connecticut: $15 million Microgrid Grant & Loan Program
In efforts to harden and improve the resiliency of the electric grid, Connecticut has launched a pilot program to develop and deploy microgrids. The concept envisions for Connecticut to have a system that provides 24/7 local generation for Connecticut and a system of "trips" and "transfers" that modifies the existing distribution infrastructure. In this way, the area served by the "microgrid" will have power even where there is a large-scale grid outage. Connecticut Public Act 12-148, approved in the 2012 session of the General Assembly, established the terms of a microgrid pilot program and provided $15 million in funding for a microgrid grant and loan program. Commissioner Esty will discuss Connecticut's plans and their focus on the issue of reliable power.
Presenter:
Daniel C. Esty, *Commissioner,* CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION (DEEP)

10:30-11:00 *Networking Break*

11:00-12:00 *Panel Discussion:*
Regulator and ISO/RTO Perspectives on the Role of Microgrids in Enhancing Resiliency
The regulatory environment into which microgrids is entering is extremely complex, in part because they encroach on multiple areas of existing regulation not conceived with them in mind, i.e., generator interconnection rules, air quality permitting, building codes, tariffication, etc. This panel will provide a road map for understanding regulator and ISO/RTO perspectives on microgrids with the goal of enhancing resiliency.

Panelists:
Jim Brenton, *Principal, Regional Security Coordinator,* ELECTRIC RELIABILITY COUNCIL OF TEXAS (ERCOT)
Jeanne Fox, *Commissioner,* NEW JERSEY BOARD OF PUBLIC UTILITIES
Chantal Hendrzak, *General Manager Applied Solutions,* PJM INTERCONNECTION

12:00-1:15 *Group Luncheon*

Session II: Military Microgrids

1:15-2:00 *Panel Discussion:*

Impact of Cybersecurity on Military Microgrids

- What are the requirements for cybersecurity?
- How does this compare with commercial microgrids?
- How can we make the microgrids more secure?
  - Why the type of microgrid matters when evaluating cybersecurity threats
  - Cybersecurity strategies and controls appropriate for microgrids
  - Cybersecurity action plans to follow through the lifecycle of a microgrid

Panelists:
Charles Chen, Ph.D., *Technical Programs Manager, Advanced Concept & Technology Development,* NORTHROP GRUMMAN ELECTRONIC SYSTEMS
Neil V. Holloran, *OSD Mission Assurance Programs Manager,* US NAVY
Faramarz Maghsoodlou, Ph.D., *Director, Energy Solutions,* CISCO SYSTEMS, INC.
Gilbert Sorebo, *Assistant Vice President - Chief Cyber Security Technologist,* SAIC

2:00-2:30 *Presentation:*

Military Microgrid Planning and Assessment
This presentation will focus on NREL's support for microgrid planning, assessment and design across the Department of Defense (DoD). The presentation will review project requirements, discuss electrical systems analysis and modeling, and describe the challenges of renewable energy integration. The presentation will also review financial analysis of microgrids and a methodology for energy security valuation.
Presenter:
Julieta Giraldez, *Electrical Engineer, Grid & Dispatchable Power Market Transformation Center,* NATIONAL RENEWABLE ENERGY LABORATORY

2:30-3:00 *Networking Break*

3:00-3:30 *Presentation:*

DoD Microgrid Demonstration Projects and Emerging Potential
In order to understand the impact of microgrids on US Military Installations, the Department of Defense (DoD) Environmental Security Technology Certification Program (ESTCP) is collecting, analyzing and developing insights through microgrid demonstrations and studies. The ESTCP program office conducts the microgrid activities along with a variety of distributed energy, energy efficiency and energy management projects by using military installations as an Energy Test Bed. The presentation will highlight useful insights relevant to the microgrid opportunities on military installations.
Presenter:
James Galvin, Ph.D., *Program Manager, Energy and Water, SERDP/ESTCP,* DEPARTMENT OF DEFENSE

3:30-4:00 *Presentation:*

The Navy and Marine Corps Smart Mircogrid Program

The Department of the Navy (DON), which includes both the Navy and the Marine Corps, has many smart microgrid projects underway. This presentation will highlight the current projects in progress and the future plans for the Department of the Navy smart microgrid program.

Presenter:

Jennifer Mustain, PE, *Director,* THE DEPARTMENT OF THE NAVY (DON) SMART GRID PROGRAM

Session III: Microgrids in Commercial Applications

4:00-4:30 *Spotlight Case Study I:*

Microgrids for Remote Communities and Installations

This case study will highlight various remote off-grid projects -- describing the needs, economics and technical requirements for microgrid functionality, as well as unique challenges for installation, operations & maintenance.

Presenter:

Vic Romero, *Director, Asset Management and Smart Grid Projects,* SDG&E

4:30-5:00 *Spotlight Case Study II:*

Princeton University: Microgrid Performance and Resiliency during Superstorm Sandy Outages

Campus or military bases are considered good candidates for microgrids, particularly if there is a strong need for back-up power. During Superstorm Sandy, Princeton University was able to switch off the grid and power part of the campus with about 11 megawatts of local generation and later coordinated with PSEG and reconnected to the grid. This case study will highlight the steps taken to incorporate microgrid technologies from an end-user perpective and the proven reliability benefit during the "storm of unprecedented proportions".

Presenter:

Ted Borer, PE, CEM, LEED AP, *Energy Plant Manager,* PRINCETON UNIVERSITY

5:00-5:45 *Panel Discussion:*

End-User Perspectives: University, Hospitals, Hotels, Research Parks and Data Centers, etc.

Increased demand for microgrids on a worldwide basis, in a variety of application areas including campus environments, remote/off-grid settings, and commercial & industrial markets is apparent. Panelists will disucss their needs, opportunities and challenges they experience as the "end-user".

Panelists:

Michael Kornitas, CEM, LEED, *Energy Conservation Manager & Sustainability Coordinator for Facilities,* RUTGERS THE STATE UNIVERSITY OF NEW JERSEY

Brian Patterson, *Chief Executive Officer,* EMERGE ALLIANCE

Jeff Seidel, PE, *Director of Capital Expenditures,* MOHEGAN TRIBAL GAMING AUTHORITY

Mohammad Shahidehpour, Ph.D., *Professor and Director, Robert W. Galvin Center for Electricity Innovation,* ILLINOIS INSTITUTE OF TECHNOLOGY

Phil Smith, *Director, Federal Project Development,* HONEYWELL BUILDING SOLUTIONS

5:45 *Day One - Summit Adjourns*

5:45 – 6:45 *Networking Reception*

Wednesday, May 1, 2013

8:00-9:00 *Registration & Networking Breakfast*

9:00-9:05 *Opening Remarks by Summit Chair*
David Chiesa, *Manager, Business Development*

Session III: Microgrids in Commercial Applications (con't)

9:05-9:45 *Panel Discussion:*
Microgrids for Increased Resiliency in Commercial Building Applications
This panel will discuss the technical requirements and steps large real estate developers, major corporations with large portfolios of buildings or franchises need to take to incorporate microgrids into their system to increase energy security.
Panelists:
Chris Halpin, *President,* CELTIC ENERGY INC.
George Hernandez, *Energy Planning & Policy Analysis Group,* PNNL
Chris Kuhl, *Team Leader, Global Sales & Service Support,* ZBB ENERGY
Kenneth Munson, *President & Chief Executive Officer,* SUNVERGE ENERGY, INC.

Session IV: Utilities, Finance and Partnering

9:45-10:30 *Panel Discussion:*
Utility Activities and Perspectives vis-à-vis Microgrids
Given the variety of utilities that now exist, handling different facets of the grid under varying business models, with some actively experimenting with microgrids and others fundamentally resistant, this panel will explore the attitudes and activities of different utilities, providing a cross-section of perspectives. For example: Can utilities own on-site generation? Can projects use their existing distribution system assets (the 12 kV wire) to distribute power?
Moderator:
Andrea Traber, AIA, LEED-AP BD+C, *Principal, Sustainable Use Americas,* DNV KEMA ENERGY & SUSTAINABILITY
Panelists:
Dr. Louis Hutchinson III, *Vice President, Public Sector & Energy Efficiency Sales,* CONSTELLATION
David R. Logsdon, *Distributed Generation Specialist,* CON EDISON
Drew Rankin, *Chief Executive Officer,* CONNECTICUT MUNICIPAL ELECTRIC ENERGY
Brad Reeve, *General Manager,* KOTZEBUE ELECTRIC ASSOCIATION INC.
Mike Rowand, *Director, Advanced Customer Technologies,* DUKE ENERGY

10:30-11:00 *Networking Break*

11:00-11:45 *Panel Discussion:*
Financing Microgrid Projects

- PPA vs. Energy Savings Performance Contract: Pros and cons, which is more appropriate where?
- What are the available funding sources? What makes for an attractive deal to potential lenders?
- Will solar finance be extended to full microgrid features? Investment banks, new venture-backed companies?
- What are the economic arguments?

Panelists:
Ed Feo, *Managing Partner,* USRG RENEWABLE FINANCE

Scott Foster, *Managing Director, Federal Business Unit,* HANNON ARMSTRONG
Andy Redinger, *Managing Director & Group Head,* KEYBANC CAPITAL MARKETS INC.
Jonathan Yellen, *Managing Director, Global Capital Markets Division,* MORGAN STANLEY

11:45 – 12:30 *Panel Discussion:*

System Integrators Perspectives on Partnering

Some system integrators are seeking to provide turnkey microgrid packages, with all in-house equipment. Others are happy to assemble a variable mix of third party technology, changing from one project to the next. And there is no such thing as a one-size-fits-all "ACME Microgrid Kit"– each customer scenario has unique characteristics and the technology and integration skills are rapidly evolving.

- How do system integrators select potential partners?
- Where does the money come from – must system integrators have deep pockets? Are there special, dedicated funding sources that can be leveraged?
- How is intellectual property handled?
- What communication protocols are needed from technology vendors? Are there special quality or reliability ratings needed?

Panelists:

Philip Barton, *Microgrid and Advanced Reliability Program Director,* SCHNEIDER ELECTRIC
Richard Fioravanti, *Vice President, Storage Applications and Support,* DNV KEMA
Jeff Puffer, *Director of Business Development, Federal Systems Group,* HONEYWELL BUILDING SOLUTIONS
Steve Pullins, *President,* HORIZON ENERGY GROUP
Stephen Schneider, *Vice President - Chief Solutions Architect Federal,* SAIC

12:30 *Day Two - Summit Adjourns*