



MICROGRID & DERS SUMMIT

September 17-18, 2019

Mary M. Gates Learning Center
Alexandria, VA

Creating a dynamic resilient & sustainable energy future

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7:30 – 8:30	Registration and Networking Breakfast
8:30 – 8:40	Congressional Welcoming Remarks
8:40- 9:00	<p>DOE Opening Remarks: Improving Reliability and Resiliency in an Expanding, Decentralized Digital Grid</p> <ul style="list-style-type: none"> -Progress on developing a North American grid resilience model (NAERM) and what our utility and energy stakeholders need to know for near future planning -Approach and goals for DOE's "Storage Launchpad" - Viewpoint towards current integration of DERS and microgrids into the national energy infrastructure, and areas for continued progress by the energy community as a whole. <p>Mr. Bruce J. Walker, Assistant Secretary, Office of Electricity, U.S. Department of Energy (confirmed)</p>
9:00 – 9:50	<p>Supporting DoD Installation Energy Resilience and Reliability</p> <ul style="list-style-type: none"> -Current activities and interest in onsite power generation, distribution and storage : what resources are of interest, and how would their integration occur: Developing a modernized on-base power distribution system that is sufficiently flexible to meet future mission requirements including increased conservation and efficiency of energy usage -The role for microgrids -Contracting: understanding how DoD contracts with energy providers (including recent Air Force initiatives towards "Energy as a Service" contracting) <p>Panelists:</p> <p>Dr. Lance D. Hansen, SES, Director, CERL, U.S. Army Engineer Research and Development Center (confirmed)</p> <p>Mr. Dan Soto, Chief, Energy Directorate, Air Force Civil Engineering Center (confirmed)</p> <p>Mr. James Balocki, SES, Deputy Assistant Secretary of the Navy for Installations and Facilities (tentative)</p> <p>Moderator: Mr. Michael Wu, CEO, Converge Strategies</p>
9:50 – 10:20	Networking Break & Exhibits
10:20- 11:10	<p>Utility Panel: Evolving Strategic and Operational Models for Integrating DERS and Microgrids into our Energy Ecosystems</p> <ul style="list-style-type: none"> - Exploring evolving strategic business models: perspective towards emerging models for microgrids, utility scale Solar + Storage strategies and where home batteries, EV, and rooftop solar could become real-time market players? - From a utility perspective what is most misunderstood about integrating DERs and Microgrids in the grid and our operating systems? What are the near term steps we need to be taking to most effectively develop a dynamic, resilient and sustainable grid infrastructure? - Over the next 5 years, what are the most compelling paths of adaptation and innovation for the utilities to ensure their unique role with their customer and community <p>Panelists : 4 Utility Executives in total to be included:</p> <p>Mr. DV Rao, SVP, Strategy, CMS Energy Corporation (confirmed)</p> <p>Mr. Douglas McMahon, VP, Corporate Strategy, NYPA (confirmed)</p>
TECHNICAL FRAMEWORKS : Learn from 3 leading utilities on their DER integration	
11:10 -11:40	<p>Ameren Case Study: Integrating DERs While Maintaining Stability and Reliability</p> <ul style="list-style-type: none"> -Ameren's experience with utilizing an ADMS: what are the current and future challenges -Transactive energy test case for identifying the value local DER can provide to our distribution system and the customers it serves: brief overview of the application being tested at Ameren's Technology Applications Center microgrid <p>Mr. Rick Welton, Senior Director of Distribution Planning and Operations, Ameren (confirmed)</p>

11:40 – 12:10	<p>National Grid Case Study: Operation and Management of Distributed Energy Resources on Modern Distribution Systems</p> <ul style="list-style-type: none"> - Developing standards for interconnecting DERs with Electric Power Systems: Impact of IEEE 1547 Standard - How National Grid is creating a reliable telecom backbone to support an expanding operating ecosystem - Utilizing smart inverters for distributed generators <p>Dr. Babak Enayati, Manager, Technology Deployment, National Grid (confirmed)</p>
12:10 – 12:50	Networking Lunch
12:50 – 1:20	<p>Developing a Dynamic, Resilient and Sustainable Grid Architecture that Supports DERs Integration</p> <ul style="list-style-type: none"> - How PPL is developing the grid infrastructure to improve resiliency and support DER integration: overview of our core DMS with FISR implementation - Overview of our Keystone Project :DERMS implementation with DER Web Portal Online application portal for DER customers ; DER Forecasting Tool and planned ADMS upgrade, and our inverter filing to support DER forecasting - Brief overview of our battery demonstration project - Advice towards operational planning when undergoing the integration of DERs: 2 things we got right, 2 surprises along the way and 2 areas for improvement <p>Mr. Salim Salet, Director, Distribution Engineering, PPL Electric Utilities (confirmed)</p>
1:20 – 1:45	<p>Volt /VAR Optimization (VVO) : Using real-time information and online system modeling to provide optimized and coordinated control</p> <ul style="list-style-type: none"> - Mitigating rapid and large voltage fluctuations that result from high penetration of distributed generation - How these technologies help increase effective capacity utilization, photovoltaic generation support, avoidance of VAR penalties, and line loss reduction <p>Mr. Jonathan Stewart, Industry Director, Utility Products & Systems Division, National Electrical Manufacturers Association (confirmed)</p>
STORAGE and the GRID	
1:45 – 2:10	<p>Project Financing Perspective for Microgrids and DERs from Generate Capital</p> <ul style="list-style-type: none"> -The evolving role of private project financiers in the business, operational, technical and regulatory/market aspects of integrating DERs and microgrids into our national energy infrastructure - Understanding the opportunities and the way the marketplace for microgrids/DERs is being considered by private project finance organizations: Brief overview of the Gallaudet University microgrid project <p>Mr. Jigar Shah, President and Co- Founder, Generate Capital (confirmed)</p>
2:10 – 2:40	KEYNOTE
2:40 – 3:10	Networking Break & Exhibits
STORAGE and the GRID	
3:10 – 3:35	<p>Current State of Research for Near Term Advanced Energy Storage Capabilities</p> <ul style="list-style-type: none"> -Beyond Li-ion batteries -Overview of current research efforts with transformative materials for next generation designer batteries -What will it take, from a technical perspective, to increase current storage limits in commercial applications <p>Dr. Venkat Srinivasan, Deputy Director, R&D, Joint Center for Energy Storage Research, Argonne National Laboratory and Director of the Argonne Collaborative Center for Energy Storage Science (ACCESS) (confirmed)</p>

3:35 – 4:20	<p>Energy Storage Leadership Panel: Evolving Business Models and Innovation with Energy Storage</p> <p>Storage in the Future of Markets: What are emerging as the key challenges and encouraging pathways for distributed storage in market conversations</p> <p>-Supporting Innovation: where technical innovations are occurring to help speed the integration : current challenges and next steps needed to improve interconnection .Panelists will discuss their perspective on storage in integrated resource planning, grid modernization and public policy-driven planning efforts, including sub topics of:</p> <p>-Integrating solar +storage, home battery +solar systems into the market</p> <p>-What are the supporting advanced data applications needed to support economic optimization with storage</p> <p>Panelists:</p> <p>Ms. Deborah Collum, VP and General Counsel, NEC Energy Solutions (confirmed)</p> <p>Mr. Larsh Johnson, CTO, Stem (confirmed)</p> <p>Mr. Walker Wright, VP, Public Policy, ENGIE Storage (confirmed)</p> <p>Moderator:</p> <p>Mr. Kelly Speakes-Backman, CEO, Energy Storage Association</p>
4:20 – 4:30	Reserved for Industry Tech Talk
4:30 – 5:00	<p>Closing Federal Highlight : Federal High Performance Green Buildings and Considerations for the Role for DERs, Storage and Microgrids</p> <p>- GSA’s perspective towards enhancing clean, sustainable, resilient power needs for federal buildings: where DERs, storage and microgrids can be integrated into current and future buildings and facilities</p> <p>- Grid integration: Exploring strategies and opportunities to advance grid-integrated federal buildings that leverage technologies and strategies to dynamically shape energy loads, enhancing resilience and providing valuable services to the power grid</p> <p>- What GSA need from our partners to move forward: areas for collaborating with utilities and grid operators: path forward</p> <p>Mr. Kevin Kampschroer, Chief Sustainability Officer and Director, Office of Federal High-Performance Buildings U.S. General Services Administration (GSA) (confirmed)</p>
5:00 – 5:15	Closing Remarks, End of Day 1
SEPTEMBER 18, 2019 DAY 2	
7:30 – 8:45	Networking Breakfast and welcome back
REGULATORY & MARKETS LANDSCAPE	
8:50 – 9:40	<p>Panel Discussion: The Regulatory and Market Landscape Towards Microgrids & DERs</p> <p>This panel is designed to give attendees an update to date picture primarily of the current regulatory landscape towards microgrids (and will include DERs) integration into the grid, covering categories such as:</p> <p>Who’s going to be allowed to own and dispatch microgrids? Cost recovery: Should utilities be allowed to socialize the costs of microgrids? What public benefits can microgrids offer in exchange for public funds? How are stand by charges going to be dealt with related to microgrids?</p> <p>Can we value resiliency and microgrids’ supporting role?</p> <p>How do we protect safe delivery of electricity to meet customer demand in an increasingly fragmented market? Where the balance needs to lie for a level of uniformity without slowing down efforts going forward to integrate DERs</p> <p>This panel will address these questions and more while providing attendees insight and perspective towards their current focus and what they foresee for the near term regulatory landscape.</p> <p>Moderator: Mr. Eric Ford, Executive Director, N.J. Energy Coalition (confirmed)</p> <p>4 Panelists in total:</p>

9:40 – 10:00	<p>The Three Trends in Recent Microgrid Deployments</p> <ul style="list-style-type: none"> - Advanced Microgrids - multiple DERs and contingency handling - Hybrid Fueled Systems – renewables, battery storage and traditional generation. - Cybersecurity is no longer an afterthought <p>Mr. Chris Evanich, Manager of Microgrids, S&C Electric Company (confirmed)</p>
CYBER RESILIENCY	
10:00- 10:30	<p>Cyber Resiliency and Recovery for the Energy Sector</p> <ul style="list-style-type: none"> - Understanding the threat landscape and current initiatives underway at the ESCC: programs and support mechanisms available to energy stakeholders -Advice towards framing the evolving business models for integrating DERs and microgrids into the national energy infrastructure from a cyber resilient lens <p>Mr. Scott Aaronson, Vice President, Security and Preparedness, EEI ; Secretary for Electric Subsector Coordinating Council (ESCC) (tentative)</p>
10:30 – 11:00	<p>Networking Break & Exhibits</p>
11:00 – 11:25	<p>A CISO’s Perspective towards Integrating DERS</p> <p>The State of N.J. recently released their Energy Master Plan, calling for conversion to 100% clean energy by 2050. How is a leading utility’s CISO approaching the cyber resiliency of a dynamic and expanding IT/OT infrastructure that will meet the goals for the State?</p> <ul style="list-style-type: none"> - Where to store your data and what does good data governance look like from a CISO viewpoint? Considerations for cloud - Developing a cyber resilience strategy in an expanding and dynamic digital ecosystem: best practices towards expanding awareness of security aspects in your utility when navigating new technologies or assets to integrate into your IT/OT footprint. - Near term steps utilities can implement to increase their resiliency: tweaking awareness techniques, hardening the supply chain , and leveraging automation/AI/ML for security processes <p>Ms. Gurdeep Kaur, CISO, PSEG (confirmed)</p>
11:25 – 11:55	<p>Resiliency and Sustainability Considerations from the Customer Perspective</p> <ul style="list-style-type: none"> -What are the key considerations, from supporting city and onsite infrastructure to utility partnerships that Google analyzes for it’s facilities’ locations (from office buildings to data centers) - How we are looking to increase utilization of microgrids, storage, EV charging and DERs and does capability choice differ if the end goal is to achieve improved resiliency, sustainability and/or efficiency
11:55 – 12:15	<p>Reserved for Industry Tech Talk</p>
12:15 - 12:50	<p>Networking Lunch & Exhibits</p>
CONNECTED COMMUNITY / CITY LEVEL FOCUS	
12:50 – 1:15	<p>A conversation on: How USACE Supports National Emergency Power Needs and Recovery Efforts and the evolving role for microgrids</p> <p>The Corps has Emergency Power Planning and Response Teams throughout the country with the capability to deploy and provide support ranging from technical expertise to “turn key” installation of emergency generators at critical public facilities, such as hospitals and shelters. Learn about their strategic approach to such efforts – how do they asses, execute and deliver power and what energy sources are proving most effective and efficient for emergency efforts.</p> <p>Mr. Bruce Movahedi, Chief Electrical Engineer and Community of Practice (CoP) Lead, U.S. Army Corps of Engineers Headquarters, Washington, D.C. (confirmed)</p> <p>Continued on next page...</p>

1:15 – 2:10	<p>Panel on Smart City Planning: Integrating DERs & Microgrids into an IoT City</p> <ul style="list-style-type: none"> - Developing the use case for city level microgrids and DER utilization (renewables, storage): Understanding the approach, challenges and end goals at the city planning level and does the approach shift if the goal is to improve resiliency, efficiency and/or sustainability? - Supporting city entities needed to effectively integrate disparate energy /storage resources - Public - private partnerships: Where the co-creation between utilities, industries and cities needs to occur <p>Moderator: Mr. Bill Eger, Energy Manager, City of Alexandria, VA (confirmed)</p> <p>3 Panelists in total</p>
2:10 – 2:20	Refreshment break
INNOVATION	
2:20 – 2:50	<p>Strategic Approaches to Navigating and Integrating Emerging Capabilities and Innovations into the Utility Sector</p> <ul style="list-style-type: none"> - How Energy Impact Partners is approaching the evaluation and investment into DERs, storage and microgrid capabilities - Asking the right questions and developing the end goals: key considerations when navigating any new technology or capability for your IT /OT ecosystems <p>Mr. Evan Pittman, Vice President, Innovation and Commercialization, Energy Impact Partners (confirmed)</p>
2:50 – 3:20	<p>Virtual Power Plants to Support the Utilization of DERS</p> <ul style="list-style-type: none"> - Applications and capabilities of a VPP: utilizing intelligence coming from both centralized utility systems and the grid edge to optimize and control DERs for multiple benefit streams, including demand response, frequency regulation, contingency reserve, Volt/VAR optimization, renewable firming, ancillary services, voltage support, substation infrastructure capital expense deferral and more. - Brief overview of Portland General Electric (PGE) use case study <p>Representative of Enbala Power Networks (tbd)</p>
3:20 – 3:50	<p>Closing Session: ARPA-E Project Updates: Innovations underway to enhance the efficient, sustainable and resilient integration and interconnection of DERS into the Grid, and the role for microgrids</p> <p>Open smart and flexible microgrids</p> <ul style="list-style-type: none"> -Open-source and open architecture platform – Powernet -Packetized Energy Management: Coordinating Transmission and Distribution <p>Dr. Mirjana Marden, Science, Engineering and Technology Advisor, ARPA- E (confirmed)</p>
3:50 – 4:00	Closing Congressional remarks and end of Summit
4:00pm	End of Summit

