



MICROGRID & DERS SUMMIT

September 17-18, 2019

Mary M. Gates Learning Center
Alexandria, VA

Creating a dynamic resilient & sustainable energy future



ARRIVAL LOGISTICS ON LAST PAGES. SESSIONS ARE IN ORDER OF SPEAKERS' CALENDAR NEEDS

SEPTEMBER 17, 2019 | SUMMIT DAY 1

7:30 – 8:30	Registration and Networking Breakfast
8:30 – 8:40	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 (confirmed)</p> <p>Moderator: Mr. Michael Wu, CEO, Converge Strategies (confirmed)</p>
9:50 – 10:30	Networking Break & Exhibits
10:30- 11:15	<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 : 3 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> <p>Mr. Jim Spiers, SVP, Business and Technology Strategies, NRECA (confirmed)</p> <p>Moderator: Dr. John Caldwell, immediate past Director of Economics, Edison Electric Institute (confirmed)</p>
TECHNICAL FRAMEWORKS : Learn from 3 leading utilities on their DER integration	
11:15 -11:45	<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>

11:45 – 12:15	<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>
12:15 – 1:10	Networking Lunch
1:10 – 1:40	<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 : DER Forecasting Tool and planned ADMS upgrade -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. Paul Toub Jr, Operations Specialist, PPL Electric Utilities (confirmed)</p>
1:40 – 2:05	<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>
2:05 – 2:35	<p>Layered Embedded Security for DERs</p> <ul style="list-style-type: none"> - A tactical look at potential scalable solutions that can be aggregated to mitigate the attack surface presented by DERs. <p>Mr. Dan Herway, Chief of Strategy & Innovation, Idaho National Laboratory (confirmed)</p>
2:35 – 3:05	Networking Break & Exhibits
STORAGE and the GRID	
3:05 – 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>Ms.Sue Babinec, Program Lead - Grid Storage, Argonne National Laboratory (in lieu of 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 and the Future of Markets: What are the key challenges and encouraging pathways for distributed and grid-side storage in wholesale markets?</p> <ul style="list-style-type: none"> - Panelists will discuss their perspective on storage in integrated resource planning, grid modernization and public policy-driven planning efforts, including sub-topics of integrating solar +storage, home battery +solar systems into the market -Supporting Innovation: where technical innovations are occurring to help speed the integration : current challenges and next steps needed to improve interconnection -Current pulse on the legislative and regulatory landscape surrounding energy storage solutions -What are the supporting advanced data applications needed to support economic optimization with storage <p>Panelists:</p> <p>Mr. Larsh Johnson, CTO, Stem (confirmed)</p> <p>Mr. Roger Lin, Vice President, Marketing, NEC Energy Solutions (confirmed)</p> <p>Mr. Walker Wright, VP, Public Policy, ENGIE Storage (confirmed)</p> <p>Moderator: Ms. Kelly Speakes-Backman, CEO, Energy Storage Association (confirmed)</p>

4:20 – 4:30	<p>Industry Tech Talk: Safe, Reliable, and Economical Microgrid Solutions</p> <p>This ten minute presentation shares proven solutions for fixed (Garrison) and fixed military installations. Mobile power systems operate without connection to a bulk electric power system; these systems are comprised of skid mounted diesel engine generators sets. Garrison solutions operate on a fixed campus power system comprised of interoperable reciprocating and turbine gensets, battery systems, and intermittent inverter-based power sources.</p> <p>Results from several projects are shared. These projects use advanced protection, control and communications methods, including an intuitive condition monitoring system. Also shared are interoperability results of generators and inverters from multiple manufacturers. These microgrid control and protection systems reduce the cost, complexity, and risk of microgrid adoption</p> <p>Mr. Scott Manson, Senior Engineer, Schweitzer Engineering Laboratories (confirmed)</p>
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4:30 – 5:00	<p>Closing Federal Highlight : Federal High Performance Green Buildings and Considerations for the Role for DERs, Storage and Microgrids</p> <ul style="list-style-type: none"> - 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 - 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 - What GSA need from our partners to move forward: areas for collaborating with utilities and grid operators: path forward <p>Mr. Kevin Kampschroer, Chief Sustainability Officer and Director, Office of Federal High-Performance Buildings U.S. General Services Administration (GSA) (confirmed)</p>
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5:00 – 5:15	Closing Remarks, End of Day 1
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SEPTEMBER 18, 2019 | DAY 2

7:30 – 8:45	Networking Breakfast and welcome back
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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>4 Panelists in total:</p> <p>Mr. Upendara Chivukula, Commissioner, N.J. Board of Public Utilities (confirmed)</p> <p>Ms. Jennifer Kallay, Senior Associate, Synapse Energy Economics (confirmed)</p> <p>Ms. Gail Lalla, Client Manager, T & M Associates (confirmed)</p> <p>Ms. Kiera Zitelman, Senior Program Manager, Innovation & Partnerships, NARUC (confirmed)</p> <p>Moderator: Mr. Eric Ford, Executive Director, N.J. Energy Coalition (confirmed)</p>
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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>
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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) (confirmed)</p>
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10:30 – 11:00	<p>Networking Break & Exhibits</p>
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11:00 – 11:30	<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>
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11:30 – 12:00	<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>
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12:00 – 12:25	<p>Cyber Resilience Metrics for Electricity Sector</p> <ul style="list-style-type: none"> - Overview of the Cyber Resilience Metrics tool : measuring the cyber resilience capabilities of entities using R4 framework of Robustness, Redundancy, Resourcefulness and Rapidity - How to increase better risk management and mitigation decision, along with identifying factors contributing to resilience which help to improve investments with better ROI or actions that enhance the resilience of the electric grid. <p>Mr. Bheshaj Krishnappa, Program Manager, Resilience and Risk, ReliabilityFirst (confirmed)</p>
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12:25 – 1:10	<p>Networking Lunch & Exhibits</p> <p>Continued on next page...</p>
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CONNECTED COMMUNITY / CITY LEVEL FOCUS

1:10 – 1:35	<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>
1:35 – 2:15	<p>Panel on Smart City Planning: Integrating DERs & Microgrids</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>Panelists:</p> <p>Mr. Jon Delgadillo, Manager of Facilities & Energy, City of New Britain, CT (confirmed)</p> <p>Mr. Edward Yim, Policy Advisor, Department of Energy and Environment, District of Columbia (confirmed)</p> <p>Moderator: Mr. Bill Eger, Energy Manager, City of Alexandria, VA (confirmed)</p>
2:15 – 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>Mr. James Carr, CFO, Enbala (confirmed)</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 (tentative)</p>
3:50 – 4:00	Closing remarks and end of Summit



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ARRIVAL LOGISTICS ON NEXT PAGES....

LOCATION:

The Summit will take place at:

Mary M. Gates Learning Center at The United Way Worldwide Headquarter Building:
701 N. Fairfax St. Alexandria, VA , Corner of Madison St, one block west of the Potomac River.
<http://www.marygateslearningcenter.com> (please do not call the Center for logistics, contact DSI)

Please note that their front parking lot is under construction. You can still enter from the main front doors.

ONSITE PARKING:

There is no parking at the Center: the outdoor lot in under construction .Taxis are readily available from the Center and arrive within 5 minutes usually.

PARKING LOT:

Parking is available for a fee nearby at:
Waterfront at Old Town (One block away)
226 Montgomery St
Alexandria, VA 22314, US
\$11 Daily Max – CASH ONLY and opens at 7:00am

Canal Center (Three blocks away)
44 Canal Center Plaza
Alexandria, VA 22314
\$10 Daily Max

Washington Square (Four blocks away)
652 Wythe St
Alexandria, VA 22314
\$13 Daily Max

ARRIVAL LOGISTICS:

Upon arrival, you will enter through glass doors. Directly to your right we be another set of glass doors, with The Mary Gates Learning Center written above (see picture), about 10 feet from the entrance. We are located directly through these glass doors – you will be able to see us when first entering the building



An RSC staff member will be at the registration desk to greet you (contact information below) Please pick up your badge, onsite booklet, copy of attendees, and sign in.

Your main onsite POCs:

Ms. Monica Mckenzie, Managing Partner, Roosevelt Strategic Council
Cell phone: 1-917-992-1270 Email: mckenzie@rscouncil.org



ONSITE POCs from RSC:

Mr. Thomas Engelman, Managing Partner, Roosevelt Strategic Council
Cell Phone 1.919.215.6873 Email: tengelman@dsigroup.org

<p>DRESS CODE:</p>	<p>Speakers: Military: Duty Uniform of the Day Civilian: Business Dress</p> <p><u>Attendees</u> are requested: Military: Duty Uniform of the day. Civilian: business casual, jacket and slacks requested, tie optional</p>
<p>WIFI / BUSINESS CENTER</p>	<p>We will provide you with complimentary WIFI. You may BYOD into the conference room.</p> <p>There is access to phones, printers and computers in the business center should you need them.</p>
<p>FOOD and BEVERAGE</p>	<p>FOOD AND BEVERAGE:</p> <p>We will provide fresh coffee, teas, beverages, breakfast, snacks and a full lunch on both days. Breakfast will include a variation of fresh stuffed croissants, French toast sticks, fresh fruit salad, yogurt, mid morning cheese and crackers and muffins. Lunches will be served buffet style and include a salad and vegetable side and main dishes of chickens and pastas. Afternoon snacks are a variety of fresh desserts and cakes.</p> <p>MIL and GOV : per person price for lunch and beverage falls below general per diem rates set by DoD and GSA specifically</p> <p>Please inform us by Thursday September 12th if you have any dietary needs (kosher, vegan, gluten free, etc..so we may arrange a separate selection for you.)</p>
<p>SOCIAL MEDIA / PRESS</p>	<p>Social media: We allow basic picture taking for posting to social media and mention of speaker / session's topic that is publicly listed in the agenda – content of the discussion or direct quotation is prohibited. For example:</p> <p>O.K. to post: "Mr. Smith talking about technical frameworks for integrating DERs"</p> <p>NOT OK to post: "Mr. Smith just said his utility is going to buy a widget to integrate DERs"</p> <p>Twitter event handle: @dersummit RSC Twitter : @rscsummits</p>
<p>HOTELS</p>	<p>RSC does not engage in any financial incentives with hotels.</p> <p>The Venue is located 10 minutes from central Washington, D.C. ; 5 minutes from Regan Airport and 30 minutes from Dulles Airport, located right on the Potomac River and 10 minute walk to the heart of Old Town</p> <p>Sheraton Suites Oldtown Alexandria offers a discounted rate to our sister group if there is availability</p> <p>801 North Saint Asaph Street, Alexandria, VA 22314 <u>Book your corporate rate under our sister organization's discount (Defense Strategies Institute)</u> <i>Two walking blocks from the Mary M. Gates Learning Center</i></p> <p><i>Additional Hotels: 10 blocks away (roughly 12 minute walk to venue, or quick taxi)</i></p> <p>The Alexandrian, Autograph Collection 480 King Street Alexandria, Virginia 22314 <u>https://thealexandrian.com</u></p> <p>HOTEL INDIGO OLD TOWN ALEXANDRIA 220 South Union Street, Alexandria, VA, 22314, US <u>https://www.hotelindigo.com</u></p>