NREL Interconnection Cohort Workshop 1

Workshop Topic: Bulk Power System Considerations and Coordination
Date: December 15, 2022, 12:00-2:00pm MT
Location: Virtual – Teams link will be sent prior to event

Registration:
https://docs.google.com/forms/d/e/1FAIpQLSdaMBxVuS9m9bxbjNSjxYe3NIFPjfo9Oq4vmYnLmPPxMLv3Qg/viewform?usp=sf_link

Workshop Overview:

This workshop addresses PUC questions on the effects of FERC Order 2222 at the local level and related DER integration concerns for the bulk power system, with a focus on DER aggregation and wholesale market participation.

Agenda:

- **Introduction** (David Narang - 10 min)
  - Cohort and workshop series overview
- **FERC Order 2222 Overview and Implications for PUCs** (Caitlin Marquis - 15 min)
  - Key compliance requirements
  - Dual participation in retail and wholesale markets - challenges with double counting, double compensation, and operational compatibility
  - Industry working group conclusions and recommendations
- **DER Aggregation and Integration into Wholesale Markets and Operations** (Debbie Lew - 30 min)
  - Structural participation models for DERs in the wholesale market
  - Transparent and non-discriminatory procedures for operational coordination between the DSO and ISO
- **Break** (10 min)
- **Allowing Aggregations and FERC Order 719** (Sydney Forrester - 30 min)
  - Overview of FERC Order 719 and impacts on compliance with FERC Order 2222
  - Case studies on how states that have opted out under FERC Order 719 are integrating and regulating DER and DR aggregators now
- **Using Standards to Support DER Aggregation and Bulk Power System Coordination** (David Narang - 15 min)
  - Overview of the relevant components of IEEE 1547-2018 and IEEE 2800
  - Promoting standards adoption to support the safety, reliability, and interoperability of the grid
- **Conclusion and Next Steps** (David Narang - 10 min)

Speakers

David Narang

David Narang is a Principal Engineer in the Power Systems Engineering Center at the National Renewable Energy Laboratory (NREL) in Colorado. David's work supports the development and adoption of distributed energy resource interconnection and interoperability standards, and he served as the Working Group Chair for the 2018 revision of IEEE Standard 1547. Prior to joining NREL in, 2015, David spent 14 years working as an engineer at an investor-owned electric utility in the Southwest United States, focusing on renewable energy integration.

Caitlin Marquis

Caitlin Marquis serves as a technical and strategic expert across multiple initiatives at Advanced Energy Economy (AEE). She leads AEE's engagement on wholesale markets, with a particular focus on ISO-New England, ERCOT, and FERC. She also leads the regulatory and legislative engagement of the Advanced Energy Buyers Group, a coalition of leading companies that are working to expand their use of advanced energy. Before joining AEE, Caitlin worked at Altenex, LLC (now Edison Energy), helping companies with renewable energy procurement. She holds an M.S. in Environmental Change and Management from Oxford University and a B.A. from Harvard College.

Dr. Debra Lew

Dr. Debra Lew is the Associate Director of the Energy Systems Integration Group. Her expertise lies in leading power system studies to decarbonize our energy system, including studies focused on wind, solar, transmission and distributed energy resources (DERs). She previously worked at GE Energy Consulting and the National Renewable Energy Laboratory, including secondment to the Hawaiian Electric Company. She is the Immediate Past Chair of the IEEE Power & Energy Society's Wind and Solar Power Coordinating Committee, a member of IEEE's Standards Coordinating Committee 21 that oversees the IEEE 1547 DER interconnection standard, and a member of IEA Wind Task 25. She has a PhD in Applied Physics from Stanford University and BS degrees in Electrical Engineering and Physics from MIT.

Sydney P. Forrester

Sydney P. Forrester is a Scientific Engineering Associate working in the Electricity Markets and Policy Department at Lawrence Berkeley National Laboratory. Sydney broadly focuses on renewable energy adoption and new utility business models. More specifically, her work includes studying both the quantitative and policy-driven aspects of distributed PV solar adoption as well as the impacts of distributed energy resources on utilities and ratepayers. Sydney holds a B.A. in Mathematics and a B.S. in Earth and Environmental Engineering from Columbia University. She also holds an M.S. in Sustainable Energy Systems and an M.S.E. in Mechanical Engineering from University of Michigan.