



# Microgrid Informational Session

## Grid Interconnection IEEE 1547

What is it? How do we connect microgrid to Utility Grid?

Join us on Thursday March 10, 2022, at High Noon 12 pm PST

*Live Stream Seattle Washington*

Distributed Energy Resources (DERs) such as wind, solar, battery-storage, and electric vehicles (EVs) have become a top priority for managing the grid. The benefits these technologies provide to communities around the world also present novel challenges in their integration with distribution networks. The recently revised IEEE 1547™ 2018 defines requirements of these DER interconnections that will take the current electrical system into the future. We will discuss the NESC National Electrical Safety Code interconnection requirements.

The technical specifications for, and testing of, the interconnection and interoperability between utility electric power systems (EPSs) and distributed energy resources (DERs) are the focus of this standard. It provides requirements relevant to the performance, operation, testing, safety considerations, and maintenance of the interconnection. It also includes general requirements, response to abnormal conditions, power quality, islanding, and test specifications and requirements for design, production, installation evaluation, commissioning, and periodic tests. The stated requirements are universally needed for interconnection of DER, including synchronous machines, induction machines, or power inverters/converters and will be sufficient for most installations. The criteria and requirements are applicable to all DER technologies interconnected to EPSs at typical primary and/or secondary distribution voltages. Installation of DER on radial primary and secondary distribution systems is the main emphasis of this document, although installation of DERs on primary and secondary network distribution systems is considered. This standard is written considering that the DER is a 60 Hz source.

Mark Siira will discuss the IEEE 1547 Standard for Interconnection and Interoperability Distributed Energy Resources with Associated Electric Power. Phillip Tibbits, Puget Sound Energy Protection Engineer will speak about the protection requirements for generator interconnects specifically for micro grid interconnects. You don't want to miss! Sign up today at REGISTER [MicrogridCorporation.com](https://www.microgridcorporation.com)



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Electric Power Industry Thought Leader with hands on experience in developing new technology, as well as defining and accessing new customers, new business models and launching new business ventures as profitable sales within high growth business environment. Achieved growth by identifying market requirements, accessing high value customer segments, launching new products, retaining business profitability, and establishing and optimizing distribution channels. Creative strategic thinker and team builder with demonstrated leadership, analytical and talent acquisition, and development skills.



Specialties:

- New business market development
- Electric power controls, communications, interconnection
- Water Controls, purification, and recycling
- National account sales and business development
- Industry standards development
- Product development, technology road map development
- Innovation process management

I am always interested in exchanging ideas with others who share my interest in renewable energy, community development and innovation . You may

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Phillip Tibbits is a protection engineer at PSE. He will talk on the protection requirements for generator interconnects specifically for micro grid interconnects

- “Transfer Switch” exception for connections of 500 msec or less
- How to size generators and specify the type of generators for protection requirement
- Discuss inverter-based resources (IBR) will have minimal requirements for protection
- For larger IBR or for rotating machine sources - more stringent requirements discussed



As a utility our major concerns include:

- Unintentional islanding
- Breaker fail/tripping or not
- Relay redundancy
- Coordination with utility relaying for current based protection