National Standards for Smart Microgrids



What is the NIST smart grid program?

The NIST Smart Grid program advances the measurement science necessary to increase asset utilization and efficiency, improve grid reliability, and enable greater use of renewable energy sources in the grid through research, standardization, testing and implementation of the NIST Framework.

What is a microgrid-focused smart grid scenario?

This meeting was centered on the microgrid-focused smart grid scenario. The microgrid scenario considers two types of microgrids--one that is organized and managed by a customer or non-utility third party, and another that is organized and managed by a utility.

What are the benefits of a microgrid?

In grid connected operations they can provide cost savings. When microgrids are operated under contingency scenarios, renewable energy provides a generation source that does not require refueling. Because of this benefit, renewable resources are often seen as offsetting other generation sources that require refueling.

What is a microgrid solicitation?

The microgrid solicitation was a design-build project dwas awarded to a joint venture of Schneider Electric and Black and Veatch in 2016. Engineering design for the project was completed in 2017, and construction started in 2018. Construction completion and project commissioning are both expected in 2019.

What is an example of a microgrid?

For example, the microgrids designed for MCAS Yuma and for the Army's Schofield Barracksboth contain diesel power plants, on DoD land, owned by the local utility company and utilized for their purposes during normal grid operation but with agreements to supply power to the DoD installation in the event of a contingency situation.

How much data does a microgrid need?

To fully understand the needs of a future microgrid, a significant amount of data is required. Ideally, electric meters should be recording and archiving data at 1-minute, 15-minute, or 60-minute intervals at the individual building level, and three years of data would be available. In practice, however, this level of data is rarely available.

presented for the American National Standards IEEE 1547 and IEEE 2030 series of standards. A short synopsis of the history of the 1547 standards is first presented, then the current status ...

Since the IEEE 1547.4 and IEEE 2030 standards have been approved by the American National Standards Institute as one of the approved standards in the US, it is recommended to ...



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The National Institute of Standards and Technology (NIST) supports one of the key roles in the growth of the Smart Grid--bringing together manufacturers, consumers, energy providers, and ...

Challenges include addressing how microgrids can play a role in implementing policy goals, how microgrids operate in the current California regulatory framework, and how microgrids support ...

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