IPERC implements GridMaster® Control System for SPIDERS Camp Smith, Hawaii Project

OVERVIEW

The SPIDERS program focuses on the use of Smart Grid technologies, integration of renewable power generation, and energy storage, demand-side management, redundant power back-up, and protection from cyber threats to sustain mission-critical loads.

The objectives of Phase III of the SPIDERS JCTD were:

- Improve mission-critical load reliability
- Reduce fuel reliance with renewable energy integration
- Increase generator efficiency
- Reduce energy system risk through cyber security
- Support installation backup power mode
- Seamless islanding and reconnection to utility
- Support revenue generation while grid connected

IPERC was selected to participate in each Phase of the effort which has increased in volume and complexity. Phase III serves as the "run" step in the crawl, walk, run approach for SPIDERS.

SOLUTION

Phase III was awarded September of 2013, and will provide a microgrid encompassing all of Camp H.M. Smith, HI. As prime contractor, IPERC will install a base-wide microgrid control system, which incorporates critical and non-critical loads.

Phase III emphasizes cyber security, reliability and economic return on investment.

IPERC's control solution includes:
- Customized GridMaster control system hardware and software
- Cyber secure user interface
- Interface including communications between an overall microgrid and two sub-grids
- Microgrid networking

RESULTS

The project was completed in January of 2016 with a full operational demonstration. The control system was awarded a cybersecurity Authorization to Operate by the DoD.

Contact IPERC

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