



IPERC's Intelligent Microgrid Control System Selected as Cyber-Secure Microgrid Solution of Choice for DoD Smart Power Infrastructure Demonstration for Energy Reliability and Security (SPIDERS)

IPERC's solution will help reduce the "unacceptably high risk" of extended electric grid outages in mission-critical environments.

Fort Montgomery, NY – October 29, 2013 – IPERC, a leading provider of intelligent microgrid control solutions, was selected by [U.S. Department of Defense \(DoD\)](#) to design and commission a 5.3MW energy microgrid at [Camp Smith, HI](#). IPERC's cyber-secure collaborative intelligence software and field-tested hardware provide a robust solution that will supply continuous power for mission-critical operations for the Navy's Pacific Command headquarters. The \$3 million, two-year prime contract award constitutes Phase III of the [Do D's Smart Power Infrastructure Demonstration for Energy Reliability and Security \(SPIDERS\) Joint Capability Technology Demonstration \(JCTD\)](#).

"Power failure is not an option when it comes to U.S. Military command operations," stated John Carroll, IPERC's Business Development Director. "National security and American lives depend on uninterrupted power, and IPERC distributed controls deliver when it matters most."

The SPIDERS project is a joint effort between the DoD, the U.S. Department of Energy, and the Department of Homeland Security to model cyber-secure microgrid solutions that enhance continuity of operations at DoD bases in the face of electrical power disruptions. The project aims to test potential microgrid architectures that reliably integrate renewable energy, effective energy storage, and cybersecurity while reducing fuel consumption and reliance on the utility grid.

"The system that we develop through the SPIDERS project will determine requirements and guidelines for future design and construction of microgrids at DoD facilities, and with commercial utilities and municipalities around the world," stated Carroll. "IPERC's system will set the standard for intelligent microgrid applications worldwide."

As a component to the SPIDERS project, IPERC will host cybersecurity assessments at its full-scale microgrid facility. Testing will include attempts by the military's own cyber-warfare experts to penetrate the system. Previous tests of this kind, known as "Red Team" attacks, have demonstrated the resilience and integrity of IPERC's solution.

Prior to the SPIDERS Phase III award, IPERC was competitively selected for SPIDERS Phases I and II, each with increasing complexity. The SPIDERS Phase I microgrid came online in January 2013 and powers a single feeder at Joint Base Pearl Harbor Hickam in Oahu, HI, including a critical wastewater treatment plant. Phase II serves the Army's 4th Infantry Division Headquarters [at Fort Carson, CO](#) and integrates the utility



grid, generators, photovoltaic solar arrays, and first-of-their-kind, bi-directional electric vehicles. In Phase III, the microgrid will encompass the entire installation at Camp Smith, HI, allowing operational continuity with or without power from the local electric utility. This design integrates seven generators, several battery-based energy storage systems, and over 30 major circuit breakers.

“One of the key benefits of the IPERC system is that it easily integrates power from diverse sources,” added Carroll. “You can bring in power from the conventional utility network, along with generators and renewables like solar or wind. Since the system ‘thinks’ for itself, you’re going to use energy as efficiently as possible, from the most appropriate sources.”

Cyber-Secure Reliability

This final phase of SPIDERS project is the most complex. IPERC’s distributed control network architecture lends itself to flexible integration of microgrid components and is inherently more secure than legacy supervisory control and data acquisition (SCADA) systems. The IPERC system well withstood a Red Team attack during Phase I testing and has been further hardened for more in-depth testing during Phase II. The Phase III microgrid will be emulated in IPERC’s hardware-in-the-loop test bed to maximize cybersecurity measure testing with minimal risk of equipment damage.

About IPERC:

IPERC provides intelligent microgrid technologies that maximize efficiency and reduce overall energy consumption. IPERC’s cyber-secure, collaborative intelligence software and compact field-tested hardware form a complete distributed controls solution that is inherently more robust, more adaptable and more reliable than any alternative on the market. The IPERC team is comprised of experts in control systems, cybersecurity and essential microgrid elements, including generators, solar power and energy storage. With this diverse expertise, IPERC is able to tailor a solution to meet each client’s unique needs. For more information, visit www.IPERC.com or contact John Carroll at **1-800-815-6183 x118** or info@IPERC.com