



GRID RESILIENCE AND INNOVATION PARTNERSHIPS PROGRAM

Microgrids and Smart Grid Technology for Energy Resilience at Joint Base Pearl Harbor Hickam

Established by the Bipartisan Infrastructure Law, the Grid Resilience and Innovation Partnerships (GRIP) Program is a \$10.5 billion investment to enhance grid flexibility, improve the resilience of the power system against extreme weather, and ensure American communities have access to affordable, reliable, electricity when and where they need it. GRIP funding is administered by the U.S. Department of Energy's Grid Deployment Office (GDO). This project was selected through the second round of GRIP funding.

Ameresco, Inc., in partnership with the U.S. Navy and Hawaiian Electric Company (HECO), will plan to deploy the Pu'uloa Microgrid that will integrate smart grid technology within a front-of-the-meter microgrid design to improve energy resilience for Joint Base Pearl Harbor Hickam (JBPHH) and Oahu. Pu'uloa Microgrid will use smart grid technology, microgrid control systems, and new electrical infrastructure to provide critical grid reliability improvements for Oahu. The Microgrid is planned to operate in coordination with Pu'uloa Energy, a planned 99 MW firm capacity renewable dispatchable generation resource, being developed at JBPHH. Support from DOE will enable a hybrid microgrid to be deployed more quickly and will demonstrate the ability of smart grid technology linked to firm clean energy to improve generation mix diversity.

Anticipated Outcomes and Benefits

Grid support: During normal grid conditions, Pu'uloa Microgrid will supply clean, reliable power to the Oahu grid from Pu'uloa Energy. During grid outages, the Pu'uloa Microgrid will detect the loss of power, disconnect from the broader grid, and direct power from Pu'uloa Energy to support JBPHH's national security needs. During a full island outage, the system will provide black start capabilities. The project will also improve power quality to JBPHH and the local grid through ancillary services such as frequency response and voltage support.

Smart microgrid technologies: Pu'uloa Microgrid is designed to strengthen the grid and improve resilience by increasing or establishing interconnections between HECO substations at JBHH with new 46 kV transmission infrastructure that will be integrated into the microgrid control system and utilize state of the art smart grid technologies.

Community benefits: The project will pursue a Project Labor Agreement with local unions, pay prevailing wages, and use apprentice labor. During construction, at least 75% of jobs will be locally sourced. The project is anticipated to create 40 jobs during construction.

Ameresco will fund workforce development scholarships for James Campbell High School, an agriculture and workforce development initiative for Leilehua High School, and an environmental cleanup initiative for the Salt Lake Community bordering JBPHH. Some of this project will be executed in collaboration with the following labor organizations: IBEW Local 1186, LiUNA Local 368, Operating Engineers Local 3, and LECET.

Project Details



- **Project:**
Pu'uloa Microgrid and Backbone Project
- **Applicant/Selectee:**
Ameresco, Inc.
- **GRIP Program:**
Smart Grid Grants
(Bipartisan Infrastructure Law, Section 40107)
- **Federal cost share:**
\$39,858,257
- **Recipient cost share:**
\$75,161,680
- **Project location:**
Hawaii
- **Project type:**
Microgrids

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