SIOP microgrid study by NAVFAC EXWC to enhance energy resilience, mission assurance at naval shipyards

NAVFAC awarded a $3.7 million contract for an electrical microgrid study as part of the Navy's Shipyard Infrastructure Optimization Program to assess public shipyards in the event of a power grid or utility outage.

From William Couch, Sept. 27, 2024

WASHINGTON – Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) awarded Jacobs Engineering CH2M Hill/Clark Nexsen Energy Partners Joint Venture a $3.7 million contract for an electrical microgrid study as part of the Navy's Shipyard Infrastructure Optimization Program (SIOP) Sept. 13.

The study, expected to be completed in October 2025, will assess all four public shipyards and develop proposed courses of action for ensuring up to 14 days of electrical power in the event of a power grid or utility outage. It will include assessing the technical, economic, and environmental feasibility of implementing a microgrid system to enhance energy efficiency, reliability, and resilience within shipyard facilities.

"This study is foundational to providing energy resilience at our naval shipyards," said Capt. Luke Greene, SIOP program manager. "Off-grid survivability is critical to maintain the shipyards' operations under adverse conditions and deliver ships and submarines back to the fleet on time."

The study is part of SIOP's holistic recapitalization effort that integrates all infrastructure and industrial plant equipment investments at the Navy's four public shipyards to meet nuclear fleet maintenance requirements, as well as improve Navy maintenance capabilities by expanding shipyard capacity and optimizing shipyard configuration.

Leveraging the structure and rigor of the Department of Defense's Major Defense Acquisition Program process – a first for an infrastructure program – SIOP established infrastructure performance criteria to evaluate potential solutions to facilities challenges at the shipyards. These criteria include the ability to operate independently of the electrical grid for up to 14 days.

To date, SIOP has completed 30 facilities projects totaling $867 million, with an additional 40 projects worth a total of $6 billion under contract. This includes four dry docks under construction. SIOP work continues to strengthen the naval shipyards' resiliency in the face of sea level rise and other adverse conditions.

NAVFAC EXWC, the specialized engineering support and contracting activity for the study, provides research, development, testing and evaluation; in-service engineering; and life-cycle management for shore, oceans, and expeditionary domains to accelerate innovation enabling fleet lethality both at sea and ashore.

"This microgrid study will support infrastructure modernization of our naval shipyards by providing a course of action to increase resilience and provide uninterrupted critical power," said Andy Vasquez, NAVFAC EXWC program manager. "NAVFAC EXWC is proud to provide the required specialized engineering services to support SIOP."

For more information about the Shipyard Infrastructure Optimization Program, visit https://www.navfac.navy.mil/PEO-Industrial-Infrastructure/PMO-555-SIOP/.