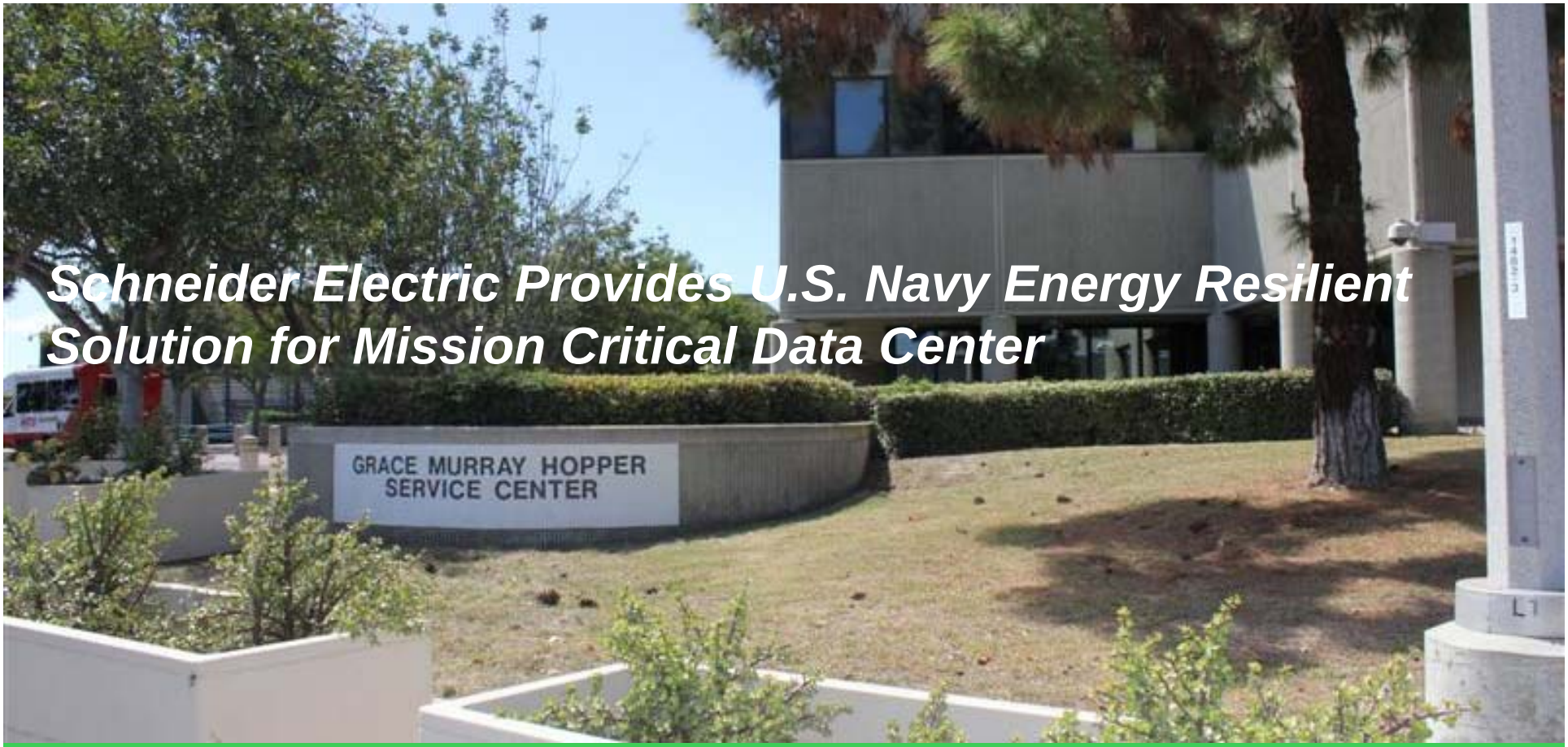
Schneider Electric Provides U.S. Navy Energy Resilient Solution for Mission Critical Data Center



Kevin Vaughn, Director- Federal ESPC Program, ESS

Life Is On Schneider Electric

Background

- **The ESPC Addresses the Navy's Mission Critical Goals**- reliability, sustainability, resiliency, and efficiency for this mission critical data center.

- 95% of the ESPC is in a mission critical data center with comprehensive ECMs ranging from the server floor to chillers and electrical substation with the objective of increasing resiliency, redundancy, and efficiency.

- The TO was awarded February, 2016 with a value of $114 M. Construction is over 90% complete and ahead of schedule.

- Guaranteed savings are $4.4 million/year

- The performance guarantee is structured around Schneider Electric guaranteeing temperatures on the server floor, uptime of critical equipment, and full O&M, in addition to energy savings.

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Solutions

Efficiency- A significant efficiency solution is the use of enclosures for the server racks that confines cooling to the servers instead of the 20,000 ft2 server floor. Additionally, all new equipment installed for this project, chillers, cooling tower, boiler, and roof etc, are high efficiency. The PUE on the server floor is reduced from 2.5 to 1.2.

Reliability- This project provides N+1 redundancy for critical equipment providing power and cooling to the mission critical server floor. This equipment includes new transformers and switchgear, back-up generators, chillers, and new CHW distribution system for the mission critical server floor.

This ESPC meets the Navy's needs today and positions them well for the future. It builds the platform for consolidation and enables the Navy to meet their reliability and sustainability requirements and provides the platform of scalability for future needs.

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Solutions

Resiliency- this project adds back-up power generation and 470kW PV to increase resiliency.

Sustainability- this project provides comprehensive maintenance and replacement of critical equipment for the 19 year performance period. It also provides onsite personnel and a one hour response time to ensure optimal and sustained performance.

Other Benefits- due to more efficient use of power, energy, and floor space resulting from this ESPC, the Navy has additional capacity to consolidate other data centers into this data center.

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Performance Guarantees

Efficiency- HVAC equipment installed under the ESPC will be maintained to remain with 4% of the installed efficiency

Resiliency- HVAC equipment serving the data center will have N+1 redundancy throughout the performance period. Equipment serving the data center will be maintained in a state of operational readiness. Timeframes for loss of N+1 redundancy will be reported. Loss of N+1 redundancy beyond 14 days in a performance period will result in a financial penalty of $50,000.

Replacement- the equipment serving the data center will be replaced within the performance period resulting in significant remaining equipment life at the end of the performance period.

M&V- Equipment performance, including efficiencies, power, temperatures, delivered tonnage of cooling, and run times will be monitored and reported

Staffing and Response- an onsite FTE will be provided during normal working hours and a one hour response will be provided at all other times.

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