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TAKING UPS TO THE FEDERAL LEVEL — AND BEYOND

After first installation at a federal building, E1 Dynamics' has delivered more than 40 MW of UPS systems in North America

E1 Dynamics, the North American subsidiary of Belgium's Euro-Diesel, partnered with Phoenix Products to supply its first U.S. uninterruptible power supply (UPS) system back in 2009. Since then, E1 Dynamics said it has installed and commissioned over 40 MW of No-Break KS UPS systems in North America, with current open orders totaling 12 MW. The company is forecasting another 35 MW this year.

The No-Break KS system is designed for power applications in data centers, telecommunications facilities, airports and air traffic control towers, banks and financial institutions, broadcasting stations, pharmaceutical and chemical sites, road and railway tunnels, and manufacturing industries. The partnership with Phoenix Products, a division of Ring Power Corp. that specializes in the packaging of power generation and fuel storage equipment, has grown since the first installation, which was at a federal building in Kansas City, Mo.

The 3.2 MW UPS system engineered into that facility is designed to provide continuous clean power for the entire site, which required an advance power protection system installed within a very space constrained area.

"The project was special in that the Advanced Rotary UPS system, brand named the No-Break KS provided by E1 Dynamics, had to be properly packaged along with the electrical distribution into an extremely small footprint," said Bob Suchon, president of Montgomery, Texas-based E1 Dynamics. "The challenges were alleviated by using the No-Break KS, which is the smallest footprint, high-power UPS in the industry, and the enclosure packaging expertise of Phoenix Products.

"We were able to retrofit all of that power without even stepping foot inside of the building itself."

The power protection upgrade was part of a retrofit to the federal building that replaced an existing and static UPS with batteries and a generator set.

"Our equipment was chosen because we freed up considerable space inside of the building where their old UPS and other switchgear had been installed, resulting in the customer having extra space to expand operations inside of his existing facility," Suchon said.

The No-Break KS system is designed to protect the entire facility during a utility outage or surge in power from the utility grid. The system includes two 1.6 MW units based on 16-cylinder MTU Series 4000 engines prime power rated at 2709 bhp. The engines are mated to the Kinetic Energy Storage Device from Euro-Diesel and then to Marelli alternators.

Controls are provided by Euro-Diesel. The control system monitors all inputs and outputs of the utility grid, as well as the output regulation of the machines and all peripheral items associated with the equipment, including status of the Industrial Power Systems switchgear, temperatures of the equipment and ambient air, and fluid levels. All data



The power protection upgrade at the Missouri site replaced a static UPS system with batteries and a generator set. The system is housed in three mating enclosures that combined are 110 ft. long and 12 ft. wide. It was designed for placement alongside the building, thus keeping an access road area free for entry.

is communicated to the local building management system inside the facility. The power protection system is housed in three mating enclosures provided by Phoenix Products, which operates locations in Jacksonville, Fla., and Oakdale, Calif. The total enclosure is 110 ft. long and 12 ft. wide and was designed to be placed alongside the building, thus keeping an access road area free for entry.

"It was critical that we fit all of that power, including the switchgear, into that enclosure," Suchon said. "We had to put it up close to the building and it had to be designed to allow for a site access road between the building and the property line. We literally only had 14 ft. of clearance, including space next to the building."

To maintain the tight dimensions, care was taken in placement of the components. Radiators are roof mounted to provide additional space within the enclosure, which also fits the daily fuel tanks, silencers, generator disconnects, choke, control panels and the electrical distribution system.

Inside the enclosure are a set of heaters to keep the equipment warm during cold weather. The room also has a ventilation system to allow for operation within an ambient temperature greater than 104°F (Kansas City can regularly exceed such temperatures during the summer). The enclosure is sound attenuated to 85 dB(A) at 3 ft.

Phoenix Products provided the integration of the components for the system, including wiring, fuel system, controls, exhaust system and radiator.

"We work with partners like Phoenix

Products for the best application and integration of the product for our customers in North America," Suchon said. "Each facility design is different. Every time we supply the No-Break KS power module, it has a different fuel system, radiator, exhaust, electrical switchgear and different enclosure based on the site geographical and environmental conditions."

The company is currently working with Phoenix Products for the supply of the initial 4 MW of a 26 MW Modular Rotary UPS System order for British Columbia. These enclosure packages will be provided with 10,000 gal. base fuel tanks, along with fire alarms and fire suppressions systems that E1 Dynamics said meet all Canadian compliance codes. **dp**

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